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AMERICAN SPIDERS OF THE GENUS *THERIDION* (ARANEAE, THERIDIIDAE)

By Herbert W. Levi

With Thirteen Plates

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No. 10 — *American Spiders of the Genus* Theridion (*Araneae, Theridiidae*)

By Herbert W. Levi

It was not originally my intention to write an exhaustive revision of South American theridiid spiders, and the publication of the present revisions came about as a by-product of a trip to Europe in 1958 to study the type species of theridiid genera. During the trip I found extra time to study the holotypes of the numerous South American theridiid species, especially desirable as many of the oldest American spider names are for South American species. Further, it had been learned that the distribution of some North American species is far wider than previously thought, so that the names of some South American species might have to be applied to species from North America. At the time the holotypes were examined I made careful genitalia drawings, but usually no descriptions, as those found in the literature were thought to be adequate and time was short. On my return to the United States I considered publishing the genitalia drawings, but numerous questions arose: males could not be matched with females; distributions were unknown; geographic variation remained unknown. Thus one could not be certain whether two similar holotypes from different localities belonged to the same species or not. Clearly, it was necessary to borrow some collections, but while very large collections were obtained, they did not come from all parts of South America. There were few from Colombia, few from central and eastern Brazil, and hardly any from Argentina. I thought it most important to examine collections from areas from which theridiid species had been described during the 19th century: the Guianas, Peru, and southeastern and southern Brazil and Chile. While most of the old species were rediscovered in the collections, each collection seemed to create new problems of more new species and unmatched sexes. This paper, like my other revisions of South American spiders, is thus very incomplete. Probably less than ten per cent of the species of the large genus *Theridion* are known. I hope that most of the common theridiid species are described and figured, but it is unfortunate that several sketchily described South American *Theridion* species, whose types are in Brazil and whose genitalia remain unfigured, could not be examined. Several older types, mostly those kept in the Berlin Museum, could not be located.

Like my other papers dealing with the South American theridiid spiders, this one is unavoidably uneven in treatment of species. The papers were prepared over a period of four years. Some species were described or illustrated from only one specimen, the holotype in a European museum. Large numbers of specimens of some other species were available. Some collections were examined one after another over a period of four years, while only the largest collections (those of the American Museum of Natural History and the Muséum National d'Histoire Naturelle, Paris, thanks to the patience of Dr. W. J. Gertsch and Prof. M. Vachon, and that of the Museum of Comparative Zoology) remained available continuously for comparison. Though during these four years the optical equipment available to me has vastly improved, species represented by single individuals could be examined only superficially. Specimens from large series could be dissected and temporary microscope slides were made. Old types were often in poor physical condition, covered with cork precipitates that are difficult to remove. Several specimens suspected to be new were not described because it seemed better to wait until additional specimens became available in order to show the diagnostic characters.

Many of the 19th century type localities mentioned in this paper are difficult or impossible to find on today's maps. In a separate paper (in press) the old type localities are listed and mapped.

Bonnet (1961) indicated that the second largest genus of spiders is *Theridion*, with 625 species in 1938. However, some of the species in Bonnet have been transferred to the large genus *Achaearanea* Strand, first recognized as distinct by Keyserling as *Achaea;* others have to be transferred to *Chrysso* O.P.-Cambridge, with its numerous South American species. *Anelosimus*, first recognized by Simon as distinct, and also having numerous species, is the genus to which the majority of Chilean theridiid spiders belong. It was later synonymized by Simon. A fourth separated genus is *Thymoites*, containing many small species; relatively few *Thymoites* are known from South America, presumably because collectors have concentrated on the larger species. The genus *Thymoites* was first used by Keyserling for a single Peruvian species. Simon later described *Sphyrotinus* (now considered a synonym of *Thymoites*) from the Lesser Antilles, but placed others allied to the genus into *Theridion*. *Thymoites* has numerous synonyms; in the majority of species the male has erigonid-like modifications in the eye or clypeus region of the carapace. Even the small genus *Coleosoma* O. P.-Cambridge had been considered a synonym by some earlier cataloguers until the late Miss Bryant pointed out its distinctness.

Of the genera, *Anelosimus* is most distinct. *Achaearanea* and *Coleosoma* are very distinct, but have many species of which males are necessary for accurate generic placement. *Chrysso* and *Thymoites,* however, are believed to be specialized offshoots of *Theridion,* and the placement of some species may be arbitrary (Levi and Levi, 1962).

The number of species remaining in *Theridion* may still make it the second largest genus of spiders. As mentioned above, I suspect that only a minority of American species are known, many species being rare. (This may also be true for *Achaearanea* and *Chrysso,* certainly for *Thymoites.*) The majority of the American *Anelosimus* and *Coleosoma* may be known; these are genera whose species are common and widespread. But *Theridion* in addition to being the largest theridiid genus, is also the most diverse. Only a portion of species can be placed into species-groups, and only if males are on hand. That the skilled and experienced arachnologist Simon had to synonymize previously described theridiid genera with *Theridion* because he could not recognize differences, and by his own admittance had to use characters he believed artificial, points to the great difficulties in finding adequate characters for separating groups. The characters to be used are those of genitalia. Strong spines are not usually present in the theridiids. The eye arrangement and size may be variable (Levi, 1960). The coloration, often a prominent feature, may be different, as in some species of *Dipoena,* or it may be similar in species groups (*Theridion murarium* group), or in some *Theridion* species (and Chilean *Anelosimus*) no two specimens have the same coloration. Also, coloration readily changes in alcohol. *Latrodectus* loses its red marks and some *Theridion* species, alleged to be green, appear colorless. The problem of generic and phylogenetic characters has been discussed in two previous papers (Levi, 1961; Levi and Levi, 1962). Despite vast (but often superficial) differences in genitalia, I have been unable to separate any other groups from the genus *Theridion.* But as mentioned before (Levi and Levi, 1962), large genera are in general easier to work with than small ones, so it may not be desirable to split *Theridion* further by characters that may have doubtful phylogenetic significance.

Only genitalic structure presents reliable characters for species groups and species, and has been used almost exclusively for keys to the known American species. This does not result in the simplest keys, but no other solution to the problem of separating species groups and species was found.

Like my other papers on South American theridiid spiders, this would have been impossible without the assistance of a grant from the National Science Foundation (G-4317), making possible a trip to European museums, and a grant from the National Institutes of Health (E-1944), providing sufficient help to examine collections and complete the manuscripts. Nor could the paper have come about without the help in form of advice, hospitality, and specimens from numerous individuals and institutions. For such help I would like to thank Dr. W. J. Gertsch of the American Museum of Natural History (AMNH); Prof. M. Vachon, Muséum National d'Histoire Naturelle, Paris (MNHN); Mrs. D. Frizzell (Dr. H. Exline) of Rolla, Missouri; and Dr. E. S. Ross of the California Academy of Sciences (CAS); Dr. G. Owen Evans; Mr. E. Browning; Mr. K. Hyatt; and Mr. D. Clark of the British Museum (Natural History) (BMNH); Prof. G. C. Varley of the Hope Department of Entomology, Oxford University; Dr. A. Riedel and Mr. J. Prószyński of the Polish Academy of Sciences (PAS); Dr. A. Collart and Mr. J. Kekenbosch of the Institut Royal des Sciences Naturelles, Brussels (ISNB); Dr. O. Kraus, Senckenberg Museum, Frankfurt (SMF) and Dr. W. Engelhardt of the Zoologische Sammlungen des Bayerischen Staates (ZSM); Prof. M. Birabén of the Museo de la Plata and Museo Argentino de Ciencas Naturales, Buenos Aires; Dr. P. E. Vanzolini and Mr. P. de Biasi of the Departamento de Zoologia, Secretaria da Agricultura, São Paulo; and Dr. J. V. Scorza, Universidad Central, Caracas. I am grateful to Fr. Chrysanthus for help with Latin names.

THERIDION Walckenaer

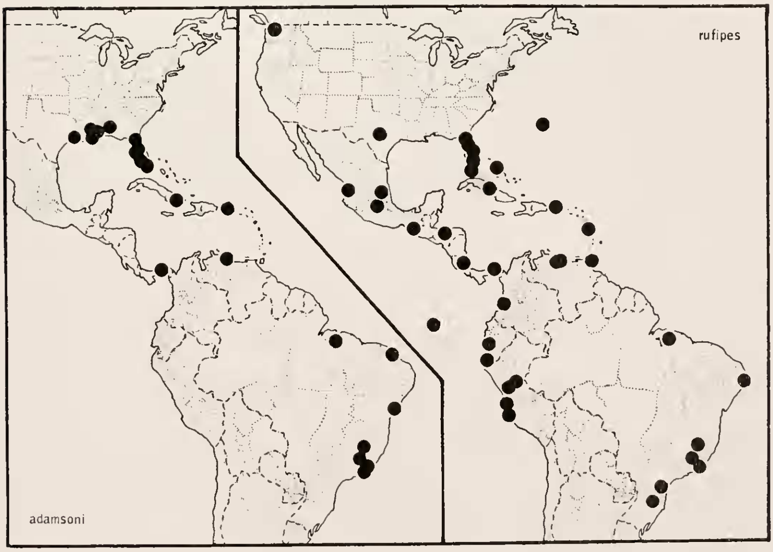
Theridion Walckenaer, 1805, Tableau des Aranéides, p. 72. Type designated by Internatl. Comm. Zool. Nomen. Opinion 517, 1958: *Aranea picta* Walckenaer, 1802. *Theridion* is listed in the official list of Generic Names in Zoology, name no. 1272 and the subsequent invalid emendations *Theridium* Leach, 1824, and *Theridio* Simon, 1864, are listed in the Official Index of Rejected and Invalid Generic Names in Zoology, no. 1159, 1160, Opinion 517, 1958.

Diagnosis. Carapace as wide as long, or longer than wide without modification (such as grooves or projections) in eye region or clypeus. Chelicerae with no teeth, or one to two teeth on anterior margin, none posterior. Males may have chelicerae elongate or with anterior proximal boss. First leg longest, second leg next in males, fourth leg next in females, third leg shortest. Abdomen oval, subspherical, sometimes wider than long. No colulus present.

Epigynum variable. Palpus with median apophysis (M in Figs. and keys), conductor (C), embolus (E), and radix (R).

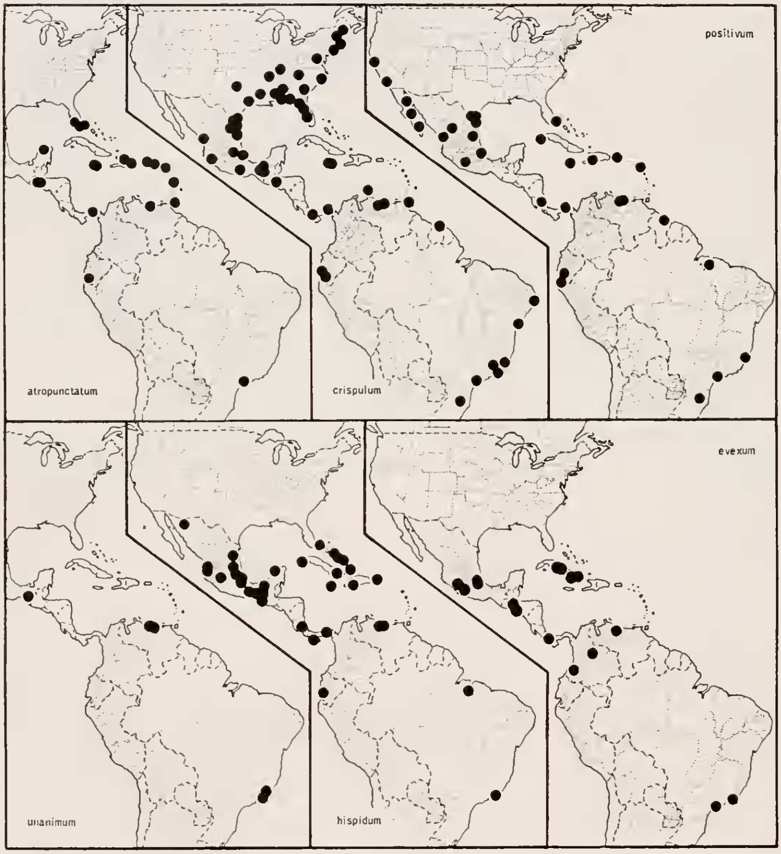
Separated from *Chrysso, Coleosoma, Tidarren, Achaearanea* by having abdomen suboval to wider than long; from *Achaearanea* and *Tidarren* by having the cymbium only rarely extended beyond alveolus; from *Achaearanea* by having a radix (only rarely, secondarily, absent) and a free median apophysis in the palpus; from *Tidarren* by having two palpi; from *Thymoites* by generally larger size, longer legs and by never having the eye region of the male carapace modified. It is sometimes difficult to recognize unaccompanied females of *Theridion* and related genera that lack the colulus (Levi and Levi, 1962).

Distribution. Cosmopolitan with several hundred species. Comments on the distribution of North American species are found in the previous papers and distribution maps (Levi, 1957, 1959).



Map 1. American distribution of two cosmotropical *Theridion*.

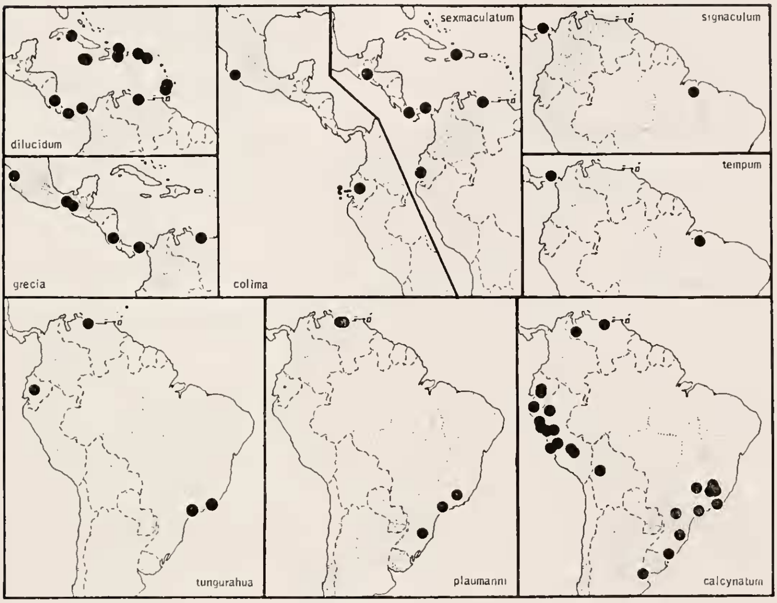
Either the South American *Theridion* are rare, or the range of the vast majority of species is restricted, or both. Exceptions are the two cosmopolitan species, *T. adamsoni* and *T. rufipes* (Map 1), and the following (Maps 2, 3):



Map 2. Distribution of some widespread South American *Theridion*.

T. crispulum from Nova Scotia to southern Brazil
T. atropunctatum from Florida to southern Brazil
T. positivum from southern United States to Paraguay
T. evexum and *T. unanimum* from Mexico to southern Brazil
T. calcynatum from Venezuela to Argentina
T. plaumanni and *T. tungurahua* from Venezuela to southern Brazil

T. signaculum and *T. tempum* from Panama to northern Brazil
T. hispidum from Mexico and West Indies to Paraguay
T. grecia from Mexico to Venezuela
T. colima from Mexico to Ecuador
T. dilucidum from West Indies, Central America and Venezuela
T. sexmaculatum from West Indies and Central America to Ecuador



Map 3. Distribution of some widespread South American *Theridion.*

None of these wide ranging species occurs in Chile, which seems to have its own surprisingly poor endemic fauna of only four species of *Theridion* (one of them also found in southern Argentina). Large collections were examined from Chile.

Five species are known from Central America to Ecuador or Peru, two from Central America to Venezuela (*costaricaense, marvum*), and three additional ones from Venezuela to Ecuador or Peru (*frizzellorum, volubile, iramon*). Eleven species are known only from Venezuela and Colombia; twenty-two species from Peru and Ecuador, with only two that appear to be common to Ecuador and northern Peru; five species in the Guianas and northern and eastern Brazil; thirty-four from southeastern

Brazil to northern Agentina; and two from Bolivia.

Misplaced species from South America.

T. acoreensis Berland, 1932 = *Achaearanea acoreensis* (Berland)

T. agreste Nicolet, 1849 = *Episinus typicus* (Nicolet)

T. alacre Keyserling, 1884 = *Achaearanea alacre* (Keyserling)

T. albolineatum Nicolet, 1849 = *Anelosimus albolineatus* (Nicolet)

T. albovittatum Caporiacco, 1955 = *Coleosoma floridanum* Banks

T. ancoratum Holmberg, 1876 = *Steatoda ancorata* (Holmberg)

T. attritum Nicolet, 1849 = *Anelosimus attritus* (Nicolet)

T. bäckströmi Berland, 1924 = *Chrysso backstromi* (Berland)

T. bellulum Keyserling, 1891 = *Achaearanea bellula* (Keyserling)

T. bentificum Keyserling, 1891 = *Achaearanea hirta* (Taczanowski)

T. bicorne Keyserling, 1891 = *Episinus bicorniger* (Simon)

T. bituberculatum Keyserling, 1884 = *Episinus immundus* (Keyserling)

T. boqueronicum Kraus, 1955 = *Achaearanea nigrovittata* (Keyserling)

T. bucculentum Nicolet, 1849 = *Anelosimus bucculentus* (Nicolet)

T. cambridgei Petrunkevitch, 1911 = *Chrysso vittata* (O. P.-Cambridge)

T. caracasanum Simon, 1895 = *Thymoites caracasanus* (Simon)

T. cidrelicola Simon, 1894 = *Lucarachne cidrelicola* (Simon), SYMPHYTOGNATHIDAE

T. citrinum Taczanowski, 1894 = *Nesticus citrinus* (Taczanowski), NEW COMBINATION

T. conspersa, — Simon, 1894 = *Chrysso compressa* (Keyserling)

T. dromedariforme Roewer, 1942 = *Achaearanea dromedariforma* (Roewer)

T. dubiosum Keyserling, 1891 = *Anelosimus dubiosus* (Keyserling)

T. emendatum Roewer, 1942 = *Chrysso albomaculata* O. P.-Cambridge

T. ethicum Keyserling, 1884 = *Anelosimus ethicus* (Keyserling)

T. eximium Keyserling, 1884 = *Anelosimus eximius* (Keyserling)
T. fasciatum Holmberg, 1876 = *Anelosimus studiosus* (Hentz)
T. fordum Keyserling, 1884 = *Tidarren fordum* (Keyserling)
T. fuegianum Simon, 1904 = ? *Anelosimus australis* (Simon)
T. gibbithorax Simon, 1894 = *Thymoites gibbithorax* (Simon)
T. giganteum Keyserling, 1884 = *Achaearanea gigantea* (Keyserling)
T. gracile Keyserling, 1884 = *Anelosimus gracilis* (Keyserling)
T. gymnasticum Keyserling, 1884 = *Anelosimus ethicus* (Keyserling)
T. haemorrhoidale Bertkau, 1880. Type from Rio de Janeiro, lost, probably = *Tidarren fordum* (Keyserling)
T. immundum Keyserling, 1884 = *Episinus immundus* (Keyserling)
T. interruptum Banks, 1908 = *Coleosoma floridanum* Banks
T. jucundum O. P.-Cambridge, 1896 = *Anelosimus jucundus* (O. P.-Cambridge)
T. keyserlingi Petrunkevitch, 1911 = *Chrysso nigriceps* Keyserling
T. leguiai Chamberlin, 1916 = *Achaearanea leguiai* (Chamberlin)
T. levipes Nicolet, 1849 = *Anelosimus attritus* (Nicolet)
T. lobifrons Simon, 1895 = *Thymoites lobifrons* (Simon)
T. maculosum Keyserling, 1884. Type in the Institut Royal des Sciences Naturelles, Brussels, examined, in poor condition, probably = *Tidarren fordum* (Keyserling, 1884). NEW SYNONYMY.
T. magnificum Keyserling, 1884 = *Anelosimus studiosus* (Hentz)
T. michaelseni Simon, 1902 = *Anelosimus michaelseni* (Simon)
T. migrans Keyserling, 1884 = *Achaearanea migrans* (Keyserling)
T. minusculum Nicolet, 1849 = *Anelosimus attritus* (Nicolet)
T. nigrescens Keyserling, 1884 = *Anelosimus ethicus* (Keyserling)
T. nigrovittatum Keyserling, 1884 = *Achaearanea nigrovittata* (Keyserling)
T. notabile Keyserling, 1891 = *Euryopis notabile* (Keyserling)

T. obnubilum Keyserling, 1891 = *Achaearanea nigrovittata* (Keyserling)
T. pallipes Keyserling, 1891 = *Achaearanea pallipera* Levi
T. passivum Keyserling, 1891 = *Achaearanea passiva* (Keyserling)
T. perniciosum Keyserling, 1886 = *Paratheridula perniciosa* (Keyserling)
T. picadoi Banks, 1909 = *Achaearanea tesselata* (Keyserling)
T. pingue Keyserling, 1886 = *Achaearanea pingue* (Keyserling)
T. puer Mello-Leitão, 1941 = *Thymoites puer* (Mello-Leitão)
T. pussilanum Roewer, 1942 = *Achaearanea pussilana* (Roewer)
T. pusillum Keyserling, 1884 = *Achaearanea pussilana* (Roewer)
T. quadripartitum Keyserling, 1891 = *Achaearanea quadripartita* (Keyserling)
T. rarum Keyserling, 1886 = *Thymoites rarus* (Keyserling)
T. recurvatum Tullgren, 1901 = *Anelosimus recurvatus* (Tullgren)
T. rotundum Keyserling, 1891 = *Chrysso nigrosternum* Keyserling
T. rubellum Keyserling, 1884 = *Dipoena rubella* (Keyserling)
T. rubicundulum Roewer, 1942 = *Chrysso vexabilis* Keyserling
T. salvadorense Kraus, 1955 = *Achaearanea taeniata* (Keyserling)
T. signatellum Roewer, 1942 = *Chrysso pulchra* (Keyserling)
T. sordidum Holmberg, 1876 = *Anelosimus studiosus* (Hentz)
T. spinatum Tullgren, 1901 = *Anelosimus australis* (Simon)
T. splendens Roewer, 1942 = *Chrysso vittata* (O. P.-Cambridge)
T. struthio Simon, 1895 = *Thymoites struthio* (Simon)
T. taeniatum Keyserling, 1884 = *Achaearanea taeniata* (Keyserling)
T. tesselatum Keyserling, 1884 = *Achaearanea tesselata* (Keyserling)
T. tosum Chamberlin, 1916 = *Anelosimus jucundus* (O. P.-Cambridge)
T. typicum Nicolet, 1849 = *Episinus typicus* (Nicolet)
T. utibile Keyserling, 1884 = *Echinotheridion utibile* (Keyserling)
T. variipes Keyserling, 1884 = *Steatoda variipes* (Keyserling)

T. vividum Keyserling, 1891 = *Achaearanea vivida* (Keyserling)

Unrecognizable species. Nicolet, 1849, described numerous species of *Theridion* all differentiated by coloration: *armatum, concinnum, funerarium, liliputanum, ocellatum, onustum, opimum, purpureum, roseum, rubicundum, silvestre, spinipes, superbum, transversum, umbrosum, ventrosum, virgulatum, viride, vittatum.* The names are believed to be synonyms of the recognizable Nicolet species, mostly those of the genus *Anelosimus*, which are variable in color. Roewer, 1942, gave new names to two of Nicolet's unrecognizable ones, *gayi* for *vittatum, viridulum* for *viride*, because he considered them preoccupied.

In addition, the following names are unrecognizable including some of Hingston. Extensive inquiry in British museums revealed that Hingston left no type specimens for his species which have no diagnostic characters.

T. adspersum Perty, 1833, Delect. Anim., p. 193, pl. 38, fig. 6, ♀ from Bahia, Brazil. Type formerly with the Zoologische Sammlungen des Bayerischen Staates, Munich; lost; probably destroyed.

Theridion brasilianum Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 81, pl. 4, fig. 50, ♀. Female holotype from Brazil in the Berlin Museum, apparently lost. Göldi, 1892, Mitt. Osterlande, neue Folge, 5: 213. Göldi (1892) records the species from Rio de Janeiro.

T. conifaciens Hingston, 1932, Naturalist in Guiana Forest, p. 375. Probably *nomen nudum* from Br. Guiana; no types in existence.

T. coniferum Blackwall, 1862, Ann. Mag. Nat. Hist. (3)10: 429. Type not in Hope Department of Entomology, lost. Probably belonging to *Achaearanea.*

T. moraballii Hingston, 1932, Naturalist in Guiana Forest, p. 376, probably *nomen nudum.* From Br. Guiana. No types in existence. Bonnet, 1959, Bibliographia Araneorum, 2: 4492, has changed the name to *T. moraballicum.*

T. rubrolineatum Taczanowski, 1874, Horae Soc. Ent. Rossicae 10: 58, from French Guiana. Type lost.

Species not available for examination. Neither of the two Mello-Leitão descriptions gives diagnostic characters or illustrates genitalia.

T. fidum Mello-Leitão, 1943, Arq. Mus. Nac., 37: 169, figs. 13, 14. Female and male syntypes from Rio Grande do Sul in the

Museu Nacional, Rio de Janeiro unavailable. The illustration indicates that this may be a linyphiid.

T. melanosternum Mello-Leitão, 1947, Arq. Mus. Paranaense, 6: 237, figs. 4, 5, ♀. Female type from Bariguí, Município de Curitaba, Paraná, Brazil in the Museu Paranaense, unavailable for examination.

Additional records and notes on United States and Canadian species. In addition to the three new southwestern species (*T. aeolium*, *T. cochise*, *T. yuma*) described in this paper, the following changes or additions have to be made to the earlier *Theridion* revision (Levi, 1957).

Theridion adamsoni Berland. 1935 (= *T. hobbsi* Gertsch and Archer, 1942)

T. antonii Keyserling, 1884, *Virginia.* Shenandoah National Park

T. crispulum Simon, 1895 (= *T. intervallatum* Emerton, 1915) *Nova Scotia.* Coldbrook, Aldershot (C. Dondale)

T. istokpoga Levi, 1957. *Alabama.* Baldwin Co.: Bear Point (A. F. Archer)

T. llano Levi, 1957. *Missouri.* Johnson Co.: Warrensburg (W. Peck).

T. lowriei Barrows. 1945. Female type in the collection of Ohio State University; microscope slide with genitalia lost.

T. lyricum Walckenaer, 1841. *Nova Scotia.* Kentville (C. Dondale)

T. montanum Emerton 1882. *Arizona.* Baldy Peak, White Mountains, 2700 m, June 1936 (E. D. Ball)

T. morulum O. P.-Cambridge, 1898 (= *T. jeanae* Gertsch and Archer, 1942)

T. pennsylvanicum Emerton, 1913. *Ohio.* Erie Co.: Resthaven Refuge, July 1959, ♂ (J. Beatty)

T. petrense Sørensen, 1898. *New Hampshire.* Coos Co.: Mt. Washington, "corn pasture," 1500 m, July 1920, ♀ (J. H. Emerton)

T. pictum (Walckenaer), 1802 (= *T. ornatum* Hahn, 1831)

T. sardis Chamberlin and Ivie, 1944. (not *T. sarde*, — Levi, 1958)

T. sexpunctatum Emerton, 1882. *Nova Scotia.* Kentville (C. Dondale) *Colorado.* Gunnison Co.: Gothic, 2900 m, Elk Mts. (W. J. Gertsch, V. Roth, H. Levi)

Additional records and notes on Mexican, Central American and West Indian species. The following corrections and additions have to be made to the earlier revision (Levi, 1959). "Port Grillo or Port Grila," according to a letter by A. M. Nadler, the collector, does not exist and must be a mistake in transcribing Puerto Rico. The following new species are here described from the area.

T. amatitlan from Guatemala
T. baltasarense from Lesser Antilles
T. costaricaense from Central America
T. cuyutlan from Colima, Mexico
T. dominica from the Lesser Antilles
T. hassleri from Dominican Republic
T. micheneri from Panama
T. nesticum from Trinidad
T. opuntia from Sonora, Mexico
T. pelaezi from Puebla, Mexico
T. schrammeli from San Luis Potosí, Mexico
T. stannardi from Chiapas, Mexico

Redescribed here are:

T. cocosense Strand from the Coco Islands, Costa Rica
T. unanimum Keyserling, 1891 (= *T. quemadum* Levi, 1959)

Additions to the known range

T. dotanum (Banks), 1913. *Dominican Republic.* San Domingo, 3 March 1955, small ♂ (A. M. Nadler)
T. lathropi Levi 1959. *Costa Rica* (SMF)

Further comments on the following are found in the text below:

T. armouri, T. artum, T. atropunctatum, T. dilucidum, T. hispidum, T. positivum, T. rufipes, T. sexmaculatum.

Keys to American species. The keys are mainly based on genitalia for reasons discussed in the introduction. They should be used together with the illustrations in this paper and the two previous papers on American *Theridion* (Levi, 1957, 1959). They are divided into keys for Canadian and United States species, which are fairly well known, and keys for the species of Mexico, Central America, the West Indies and South America.

Key to Female *Theridion* of Canada and the United States

(Abbreviations: SR, seminal receptacles; CD, connecting ducts); Figures capitalized refer to the present paper; figures in lower case (figs.) to Levi 1957 unless otherwise stated.

1a. Epigynum with a central hump or boss ... 6
1b. Epigynum flat, depressed, with an elevated plate or with two humps 2
2a. Epigynum with a single central depression, containing two circular or slit-like openings, openings readily apparent; or with a central depression divided by a septum ... 9
2b. Epigynum otherwise, if with a central depression, duct openings not visible in ventral view ... 3
3a. Epigynum with a pair of separate depressions or openings or dark spots ... 20
3b. Epigynum with only one depression, or no depression ... 4
4a. Epigynum with a central depression, opening or central dark spot ... 33
4b. Epigynum without a central depression or opening ... 5
5a. Epigynum with no apparent sclerotized parts, indistinct ... 66
5b. Epigynum otherwise ... 73
6a. Epigynum with an elevated dark area anterior to openings (fig. 94); Utah ... *timpanogos*
6b. Epigynum with openings in dark elevated area or openings not visible ... 7
7a. Hump some distance from margin, hemispherical (figs. 191-193); cosmotropical ... *rufipes*
7b. Hump or sclerotized area touching margin; western U. S. ... 8
8a. Apex of hump close to margin (figs. 269, 275) ... *neomexicanum*
8b. Apex of hump away from margin (figs. 273, 277) ... *californicum*
9a. Depression of epigynum longer than wide, openings slits (fig. 248); Gulf states ... *istokpoga*
9b. Depression wider than long, circular, or if longer than wide, openings circular ... 10
10a. Abdomen subtriangular with a slight tubercle above spinnerets (figs. 354, 357), epigynum (fig. 356); southeastern states ... *cheimatos*
10b. Abdomen oval to subtriangular, no tubercle above spinnerets ... 11
11a. Depression of epigynum circular or longer than wide ... 12
11b. Depression wider than long ... 13
12a. Depression subcircular; a keel on narrow posterior margin; openings slits (fig. 178); British Columbia, Washington ... *varians*
12b. Depression circular or longer than wide; openings circular, closer to each other than to margin of depression (figs. 84, 86); widespread ... *rabuni*
13a. Circular openings widely separated partly hidden by margins of depression ... 14
13b. Openings not close to margin, or if close separated by narrow septum only ... 15
14a. Depression twice as wide as long (fig. 212); Washington, Oregon ... *tinctum*
14b. Depression less than one and one-half times as wide as long (fig. 208); widespread ... *alabamense*
15a. Abdomen wider than long (figs. 245-246); Texas, California ... *positivum*
15b. Abdomen longer than wide or subspherical ... 16

16a. A faint septum in anterior of depression (figs. 119, 347, 352) .... *kawea, sexpunctatum, aurantium*

16b. Epigynum otherwise 17

17a. Openings near center; septum reaching only two-thirds the way to anterior margin, branching, continuing as anterior margin of openings (fig. 214); cosmotropical .... *adamsoni*

17b. Epigynum otherwise 18

18a. Openings in anterior coils of depression margins (1959, fig. 92); Arizona .... *gertschi*

18b. Both openings together filling depression, septum narrow (figs. 219-221); eastern states 19

19a. SR spherical (figs. 215-216), coloration light, leg bands indistinct .... *antonii*

19b. SR oval (figs. 217-218); coloration dark, legs with bands .... *punctosparsum*

20a. Openings of epigynum hidden in ventral view, seen from posterior only (figs. 108, 109); southeastern states .... *flavonotatum*

20b. Openings or spots visible in ventral view 21

21a. Openings two dark, circular disks, about three diameters apart; CD looping anterior of disks (fig. 63); widespread .... *murarium*

21b. Openings, CD otherwise 22

22a. Epigynum with two dark subcircular spots; epigynum not a raised plate; western states (figs. 266, 268) 23

22b. Epigynum not with two dark spots; or if with spots, spots on a raised plate 24

23a. Posterior median eyes three-quarters diameter apart, one diameter from laterals .... *punctipes*

23b. Posterior median eyes one diameter or more apart, one diameter or more from laterals .... *leechi*

24a. Openings a pair of dark confluent spots on an elevated plate (fig. 256); Canada, northern states and Rocky Mountains ...... *montanum*

24b. Openings not a pair of dark spots on a plate 25

25a. Openings of epigynum two dark adjoining pits without distinct margins (fig. 105); spider reddish color; widespread .... *differens*

25b. At least part of margin of opening distinct or sclerotized 26

26a. Two openings in a common heavily sclerotized area (fig. 283); Greenland to Alberta .... *petrense*

26b. Two openings not in a common heavily sclerotized area 27

27a. Openings their diameter apart, their posterior and side sclerotized; openings their length from genital groove (fig. 115; 1959, fig. 75); Texas .... *cameronense*

27b. Openings otherwise 28

28a. Distinct circular openings, their diameter or less apart (fig. 156); one-third their diameter from genital groove 29

28b. Openings otherwise 30

29a. CD coiled; SR spherical (fig. 155); eastern provinces, states .... *glaucescens*

29b. CD large loops; SR dumbbell-shaped (fig. 126); Texas .... *cynicum*

30a. Openings with anterior and median margins sclerotized, two or more diameters apart, ducts relatively short (*pennsylvanicum* group); eastern states 31

30b. Openings otherwise, usually closer together, usually difficult to see 66

31a. Openings leading into sclerotized sacs whose axis is parallel to margin; CD straight (figs. 318, 319) .... *neshamini*

31b. Axis of sacs not parallel to margin; CD elbowed 32

32a. Sacs elbowed (fig. 315); heavily sclerotized .... *orlando*

32b. Sacs straight (fig. 313) .... *pennsylvanicum*

33a. Epigynum with a wider than long dark spot on an elevated plate (fig. 258); western states .... *lawrencei*

33b. Epigynum otherwise 34

34a. Abdomen wider than long 35

34b. Abdomen spherical or longer than wide 36

35a. CD openings on sides of depression (figs. 232-234); southern Florida .... *atropunctatum*

35b. CD openings on posterior margin of depression (figs. 230-231); Atlantic, Pacific Coast and southeastern states .... *crispulum*

36a. Epigynal depression with a V-shaped mark (figs. 333, 334); Canada and western states .... *ohlerti*

36b. Epigynal depression without a V-shaped mark 37

37a. Depression with a pair of small sclerotized lobes in anterior-lateral border (fig. 330); eastern provinces, states .... *lyricum*

37b. Depression without such lobes on margin 38

38a. A swelling on each side of depression; depression containing dark mark (Figs. 96, 97); Arizona .... *aeolium*

38b. Epigynum otherwise 39

39a. Epigynum with a central dark area or a sclerotized plate 40

39b. Epigynum without a central sclerotized plate 43

40a. Dark area longer than wide (fig. 76); southeastern states .... *dulcineum*

40b. Dark area circular or wider than long 41

41a. Dark area a greater distance than its width from genital groove; ducts leaving posteriorly (fig. 279); southeastern states .... *pictipes*

41b. Dark area closer to genital groove; head portion of carapace black 42

42a. A central plate with an inverted V-shaped dark mark (fig. 96); Florida .... *myersi*

42b. A central plate, without such mark but with duct coiling posterior-lateral to dark area (fig. 73) .... *dividuum*

43a. A carina between depression and margin; depression more than three times its width from groove 44

43b. No carina between depression and margin; or if carina present, depressions less than three times their width from margin 45

44a. Carina close to genital groove (fig. 170); Canada, northern states .... *pictum*

44b. Carina almost half-way between genital groove and depression (fig. 172); widespread ... *berkeleyi*

45a. Depression circular or longer than wide ... 46

45b. Depression wider than long ... 48

46a. Depression without anterior margin; lateral margins parallel (fig. 78); Missouri, Texas ... *llano*

46b. Depression with anterior margin; or if without, margins not parallel ... 47

47a. Depression its width from genital groove (fig. 92); California ... *cowlesae*

47b. Depression almost touching genital groove (fig. 184); western states ... *melanurum*

48a. Depression its length or more from margin ... 49

48b. Depression less than its length from genital groove ... 55

49a. Depression with a dark, longer than wide stripe behind, branching near margin (fig. 76); southeastern states ... *dulcineum*

49b. Depression otherwise ... 50

50a. Depression with a subcircular dark spot on each lateral margin (fig. 268); western states ... *leechi*

50b. Depression without lateral spots; or if lateral spots, not western ... 51

51a. Depression without posterior margin (fig. 158); southwestern states ... *transgressum*

51b. Depression with posterior margin ... 52

52a. Depression its width or less from posterior margin (fig. 119); southwestern states ... *kawea*

52b. Depression more than its width from posterior margin ... 53

53a. An oval dark area on each side of depression (fig. 287); eastern provinces and states ... *albidum*

53b. Whole area between depression and genital groove dark ... 54

54a. Usually with a dark patch on each side above depression (fig. 285); Pacific Coast only ... *agrifoliae*

54b. Without such dark patches (fig. 289); eastern provinces and states, rare in west ... *frondeum*

55a. Depression with a dark notch at posterior border, otherwise border not sclerotized (fig. 138); southwestern states ... *arizonense*

55b. Depression without a dark notch on posterior border ... 56

56a. Depression lacking anterior border ... 57

56b. Depression with anterior border ... 61

57a. Border of sides of depression curled anterior (1959, fig. 92); Arizona *gertschi*

57b. Border not curled anterior ... 58

58a. Depression at least twice as wide as long, its length from margin (fig. 180); British Columbia, Washington ... *simile*

58b. Depression narrower, and touching margin ... 59

59a. CD with anterior loop (1959, figs. 89, 90); southwestern states ... *submissum*

59b. CD without anterior loop ... 60

60a. CD opening on sides of depression (fig. 348); Alaska, northern states, Appalachian and Rocky Mts. .... *sexpunctatum*
60b. CD opening towards anterior (fig. 352); Alaska, northern states .... *aurantium*
61a. Depression on a raised area, a CD loop usually visible on each side (always in cleared specimens). Openings of ducts at anterior border of depression (figs. 64-66); northern, western states .... *petraeum*
61b. Duct without loop on each side of depression; or if loop shows, openings are at posterior border of depression 62
62a. Depression heavily sclerotized; entirely black (fig. 281); Southwest .... *morulum*
62b. Depression not heavily sclerotized 63
63a. Dorsum of abdomen with two rows of black bands, which are broken by white lines (fig. 328). Area between depression of epigynum of genital groove swollen (fig. 327); Alaska, western Canada .... *impressum*
63b. Dorsum of abdomen with different markings; depression of epigynum touching genital groove 64
64a. Depression indistinctly visible 66
64b. Depression distinct 65
65a. Openings of ducts on anterior margin of depression (figs. 351, 352) .... *aurantium*
65b. Openings of ducts on lateral margins of depression (figs. 344-348) .... *sexpunctatum*
66a. Epigynum with a white raised area, almost twice as wide as long, with indications of CD in center of area (fig. 160); SR spindle-shaped (fig. 159); western states .... *michelbacheri*
66b. Epigynum otherwise, with one or two indistinct openings 67
67a. Epigynum with two openings though they may be difficult to see 69
67b. Epigynum not with two openings 68
68a. Epigynum with area close to genital groove shaded; SR oval, their length from margin (figs. 112, 113); southwestern states .... *dilutum*
68b. Epigynum with an indistinct slit; SR spherical, more than their diameter from margin (figs. 110-111); southeastern states .... *intritum*
69a. Internal genitalia a coil of CD (figs. 145, 149, 150) 70
69b. Ducts short; or if long, with one or two loops 71
70a. Head portion of carapace black; southeastern states .... *australe*
70b. Head portion of carapace not black; western states .... *goodnightorum*
71a. Anterior to each opening a short piece of duct visible running parallel to margin (fig. 141); Texas .... *hidalgo*
71b. CD, if visible, not running parallel to margin 72
72a. CD forming a large loop, small dumbbell-shaped SR close to margin (fig. 126); Texas .... *cynicum*
72b. CD without large loop, sometimes thickened (figs. 142, 143); abdomen often with a pair of black spots on white venter; southern California .... *geminipunctum*
73a. Epigynum with openings on a raised plate with median marks 74
73b. Epigynum otherwise 75

74a. Raised plate with a median dark mark (fig. 258); western states .... *lawrencei*

74b. Raised plate with two median marks (fig. 256); northern and Rocky Mountain states .... *montanum*

75a. Epigynum a raised area having two dark anterior lobes (fig. 250); Pacific Coast .... *saanichum*

75b. Epigynum with a posterior projecting lobe, having a V-shaped mark (fig. 108); southeastern states .... *flavonotatum*

Key to male *Theridion* of Canada and the United States

(Abbreviations used: C, conductor; E, embolus; M, median apophysis; R, radix; T, tegulum). Figures with capitalized initial letters refer to the present paper; those with lower case (figs.) to Levi 1957, unless otherwise stated.

1a. M bifid (with two prongs in mesal view) 5

1b. M not bifid (in mesal view) 2

2a. E on mesal side, completely visible in ventral view 22

2b. E on ventral or ectal side or hidden 3

3a. E partly hidden by T or C 27

3b. E completely visible in ventral view 4

4a. E with broad subcircular base and filiform portion longer than diameter of base (figs. 58, 60, 121, 154) 42

4b. E otherwise 67

5a. Proximal prong of M more than twice length of other 27

5b. Prongs of equal length or distal prong longer 6

6a. Prongs separated by a distance greater than length of longest prong .. 7

6b. Prongs separated by much less than length of longest 13

7a. E with broad subcircular base and filiform distal portion 8

7b. E otherwise 9

8a. Prongs of M directed towards ventral side (fig. 97); Florida .. *myersi*

8b. Prongs of M directed towards distal end of palpus (fig. 81); widespread .... *rabuni*

9a. E partly hidden by T or C 10

9b. E completely visible in ventral view (fig. 338); Alaska to northern United States .... *aurantium*

10a. Proximal prong of M more ventral than distal (figs. 335, 336); southeastern states .... *cheimatos*

10b. Both prongs mesal 11

11a. E with a spine on venter (fig. 301); Ontario, eastern states ... *albidum*

11b. E without spine 12

12a. Proximal M prong with one tip; C long (figs. 259, 260); Pacific Coast states, Idaho .... *lawrencei*

12b. Proximal prong with two tips in western specimens (fig. 253), one in eastern (fig. 252); C short (fig. 254); northern states, south in Appalachian and Rocky Mts. .... *montanum*

13a. Chelicerae as long as carapace (fig. 261); palpal tibia as long as cymbium (fig. 263); Pacific Coast states .... *punctipes*

13b. Chelicerae shorter than carapace; palpal tibia shorter than cymbium 14

14a. Proximal more than twice width of distal prong of M 15

14b. Both prongs of equal width or distal prong wider 16

15a. E with broad basal portion and filiform distal on ventral side of T (fig. 88); Texas .... *cinctipes*

15b. E otherwise and partly hidden by T (fig. 295); southeastern states ... *pictipes*

16a. M prongs extending beyond T (figs. 296, 297); (Figs. 123, 124); Arizona 17

16b. M prongs not extending beyond bulb (figs. 298, 300) 18

17a. E curved; C with a middle bulge (Fig. 124) .... *cochise*

17b. E straight; C without bulge in middle (fig. 297) .... *morulum*

18a. E on ventral, ectal side (fig. 236); Gulf States .... *istokpoga*

18b. E otherwise if on ectal side partly hidden by T 19

19a. E with a mesal lobe, V-shaped (fig. 293); British Columbia, western states .... *neomexicanum*

19b. E without mesal lobe 20

20a. E with a ventral spine (fig. 301); Ontario, eastern states ..... *albidum*

20b. E otherwise 21

21a. Distal M prong twice as wide as proximal (fig. 290); British Columbia; western states .... *leechi*

21b. Both prongs of equal width (fig. 298); widespread .... *frondeum*

22a. E with a membrane connecting base and distal end (fig. 201); Washington, Oregon .... *tinctum*

22b. E without membrane 23

23a. Subtegulum filling more than proximal half of cymbium (fig. 185); western states .... *melanurum*

23b. Subtegulum filling less than proximal one-third of cymbium 24

24a. E with tooth on base; C with projecting tooth (fig. 188); cosmotropical .... *rufipes*

24b. E and C without tooth 25

25a. Filiform portion of E arising from distal margin of base (fig. 187); British Columbia, Washington .... *simile*

25b. Filiform portion of E arising from proximal basal margin 26

26a. Width of filiform portion half that of basal portion (fig. 128); Texas *cynicum*

26b. Width of filiform portion less than one-third width of basal portion (fig. 117); southwestern states .... *submissum*

27a. Cymbium wrapped around bulb (figs. 161, 162); western states .... *michelbacheri*

27b. Cymbium not so modified 28

28a. C longer than width of cymbium (fig. 321); Alaska to Alberta ... *impressum*

28b. C shorter than widest width of cymbium 29

29a. M not visible as a distinct projecting sclerite 30
29b. M visible in ventral view as a distinct sclerite 33
30a. E with membrane connecting base with distal portion (fig. 198); cosmotropical . . . . *adamsoni*
30b. E without membrane 31
31a. T duct with loops (fig. 322); eastern provinces, eastern states . . . . *lyricum*
31b. T duct not visible or without loops 32
32a. E completely hidden in ventral view (fig. 325); Alaska to northern states, Sierras and Rocky Mts. . . . . *ohlerti*
32b. E partially hidden by transparent C 71
33a. M a narrow prong parallel to cymbial margin; E prominent, looping across venter of palpus (figs. 195, 197, 203) 34
33b. M otherwise; E inconspicuous, small, not looping across venter . . . 35
34a. Base and distal portion of E connected by a membrane 74
34b. E without such membrane (fig. 203); widespread . . . . *alabamense*
35a. M in distal half of palpus 36
35b. M in proximal half of palpus 39
36a. C a sclerotized structure (fig. 241); Pacific Coast . . . . *saanichum*
36b. C not sclerotized 37
37a. E with a wide notch; C small (fig. 303); Pacific Coast . . . . *agrifoliae*
37b. E otherwise, C larger 38
38a. C wide (fig. 336); southeastern states . . . . *cheimatos*
38b. C narrow (figs. 341, 342); Alaska, northern states, Appalachian Mts.; western states . . . . *sexpunctatum*
39a. M broad with a prong pointing distally (fig. 304); Pacific Coast . . . . *californicum*
39b. M otherwise with a prong pointing ventrally; eastern states 40
40a. E with a mesal tooth (fig. 312) . . . . *neshamini*
40b. E without mesal tooth 41
41a. Tegulum duct with two loops visible (fig. 310) . . . . *orlando*
41b. Tegulum duct with one loop visible (fig. 308) . . . . *pennsylvanicum*
42a. Abdomen black with light spots, a white mark above spinnerets; palpus as in figures 202, 203; widespread . . . . *alabamense*
42b. Abdomen palpus otherwise 43
43a. Filiform portion of E longer than twice cymbial length 44
43b. Filiform portion of E shorter than one and one-half cymbial length 45
44a. Filiform portion originating from proximal margin of its base (fig. 152); eastern provinces and states . . . . *glaucescens*
44b. Filiform portion originating from mesal margin of its base (fig. 154); southwestern states . . . . *transgressum*
45a. T rugose on ectal margin 46
45b. T smooth 47
46a. T with a projection having both sides rugose (fig. 101); widespread . . *differens*
46b. T with only ectal side rugose (fig. 103); southeastern states . . . . . *flavonotatum*

47a. T bulging ectally (fig. 128); in ventral view width of T greater than outline of E; Texas .... *cynicum*

47b. T otherwise 48

48a. Visible portion of M appearing as the edge of a disk in mesal view (figs. 116, 120, 124) 49

48b. Visible portion of M otherwise 51

49a. Width of E base equal to width of T visible in ventral view (fig. 117); southwestern states .... *submissum*

49b. T hardly visible on ectal side in ventral view 50

50a. E loop less than half cymbium length (fig. 125); southwestern states .. *dilutum*

50b. E loop more than two-thirds cymbial length (fig. 121); southeastern states .... *intritum*

51a. M in mesal view higher than wide with a distally directed small lobe (figs. 129, 131, 133, 135) 52

51b. M otherwise 55

52a. Filiform portion originating from ectal margin of its base 53

52b. Filiform portion originating from proximal margin 54

53a. Cephalic portion of carapace black; widespread .... *australe*

53b. Coloration otherwise .... *goodnightorum*

54a. Palpus as in figure 134; Texas .... *hidalgo*

54b. Palpus as in figure 136; Arizona, California .... *geminipunctum*

55a. M four lobed (figs. 175, 176); British Columbia, Washington .. *varians*

55b. M otherwise 56

56a. M sickle-shaped (fig. 59); Canada, northern states, Rocky Mts. .... *petraeum*

56b. M otherwise 57

57a. M with a shallow notch (fig. 81; Fig. 42) 58

57b. M otherwise 59

58a. Length of filiform part of E one and one-half times diameter of base (Figs. 42, 43); Arizona .... *yuma*

58b. Length of filiform part of E more than twice diameter of base (fig. 82); widespread .... *rabuni*

59a. Filiform portion originating on mesal side of its base 60

59b. Filiform portion originating from the proximal side of its base ... 61

60a. Subtegulum height almost one-half cymbium length (fig. 174); widespread .... *berkeleyi*

60b. Subtegulum height less than one-third cymbium length (fig. 173); Canada, northern states .... *pictum*

61a. M with two lobes (figs. 87, 97) 62

61b. M otherwise 63

62a. Distal lobe larger (fig. 97); Florida .... *myersi*

62b. Proximal lobe larger (fig. 87); Texas .... *cinctipes*

63a. M with thorn near cymbial margin (fig. 89); Georgia .... *sardis*

63b. M otherwise 64

64a. M with no apparent lobes or spines (fig. 67); R, S-shaped (fig. 68); southeastern states . . . . *dividuum*
64b. M otherwise, R otherwise 65
65a. M with a long prong at end (fig. 57); E base subtriangular (fig. 58); widespread . . . . *murarium*
65b. M and E otherwise 66
66a. E only in ectal half of palpus (fig. 70); southeastern states *dulcineum*
66b. E filament extending into mesal half of palpus (fig. 80); Missouri, Texas . . . . *llano*
67a. E a squarish structure tipped by a median spine (fig. 338); Alaska to northern states . . . . *aurantium*
67b. E otherwise 68
68a. E filament counterclockwise in left palpus (figs. 236, 238) 69
68b. E otherwise 70
69a. Filiform portion originating from ectal side of E base (fig. 236); Gulf states . . . . *istokpoga*
69b. Filiform portion originating from proximal side of E base (fig. 238); California to Texas . . . . *positivum*
70a. E a small structure in distal half of bulb (figs. 222-225) 71
70b. E large, prominent, filiform portion covering T 72
71a. Cymbium rounded at tip (fig. 225); Florida . . . . *atropunctatum*
71b. Cymbium drawn out on mesal side of tip or with angle or spine (figs. 222-224); eastern states . . . . *crispulum*
72a. E with distal coil (fig. 198); cosmotropical . . . . *adamsoni*
72b. E otherwise 73
73a. E with a membrane connecting base to filament 74
73b. E without noticeable membrane (fig. 203); widespread . . . *alabamense*
74a. Inner piece of E adjacent to outer (fig. 195); northeastern states . . . . *punctosparsum*
74b. Inner piece of E well separated by membrane from outer (fig. 197); eastern states . . . . *antonii*

Key to Female *Theridion* from Mexico, West Indies, Central and South America

(Abbreviations: SR, seminal receptacles; CD, connecting canals.) Figures capitalized refer to illustrations in this paper; figures in lower case (fig.) refer to the previous papers (1957, 1959), as indicated.

1a. Epigynum with a median knob, boss, projection or scape 5
1b. Epigynum without a median boss or projection 2
2a. Epigynum with a pair of dark spots, depressions or separate openings side by side 27
2b. Epigynum otherwise 3
3a. Epigynum with a transverse line or lip or groove 80
3b. Epigynum otherwise 4
4a. Epigynum with one median depression, opening, or median dark spot 96

4b. Epigynum otherwise or without distinct structures 188
5a. Two large round openings or spots anterior to projection 6
5b. Without round openings or spots anterior to projection 7
6a. Projection with a median groove (Figs. 214-216); Peru ...... *rossi*
6b. Projection an upturned hook, without median groove (1959, fig. 274); Central America .... *lathropi*
7a. Projection a scape overhanging posterior margin, three times as long as wide (1959, figs. 220, 221); Jamaica .... *jamaicense*
7b. Projection never more than twice as long as wide in ventral view, or not overhanging posterior margin 8
8a. Projection a hook, tip turned anterior 9
8b. Projection otherwise 10
9a. Projection heart-shaped in ventral view (Figs. 270-272); Ecuador ... *topo*
9b. Projection a large cone in ventral view (Figs. 72-74); Peru ..... *grandiosum*
10a. Projection or boss wider than long 11
10b. Projection subcircular or longer than wide 16
11a. Projection with a nipple on each lateral end (1959, fig. 306); Panama .... *progum*
11b. Projection otherwise 12
12a. Projection containing openings (Fig. 69); Venezuela .... *aragua*
12b. Projection otherwise 13
13a. Projection with a central depression (sometimes covered by a secretion) 14
13b. Projection with an opening on each side 15
14a. Shadows of ducts visible posterior side of cone (1959, figs. 83, 84); Panama .... *galerum*
14b. Ducts not visible posterior to depression (1957, fig. 281; 1959, figs. 160, 161); Mexico .... *morulum*
15a. CD shorter than shorter diameter of SR (Figs. 204, 205); Ecuador .. *macuchi*
15b. CD longer than longer diameter of SR (1959, figs. 163, 164) .. *niveum*
16a. A pair of nipples on margin (1959, fig. 300); Panama .... *paidiscum*
16b. Epigynum otherwise 17
17a. A longitudinal ridge posterior to knob (Figs. 260, 261); Ecuador, Peru .... *weyrauchi*
17b. Epigynum otherwise 18
18a. Projection surrounded by a semicircular posterior lip (1959, fig. 292); Mexico .... *cobanum*
18b. Epigynum otherwise 19
19a. Abdomen more than twice as long as wide (Figs. 266-269); Brazil .. *cochrum*
19b. Abdomen not more than one and one-half times as long as wide .. 20
20a. A subcircular, heavily sclerotized knob, dark brown (1957, figs. 191-193; Fig. 118) 21

20b. Projection otherwise ... 22

21a. SR oval, anterior to knob (Figs. 117, 118); Venezuela *botanicum*

21b. SR spherical behind knob (1957, figs. 191-193); cosmotropical ... *rufipes*

22a. Projection touching margin ... 23

22b. Projection its diameter from margin ... 25

23a. Projection with two anterior dark marks, the shadow of the CD (1959, fig. 298); Panama ... *signum*

23b. Epigynum otherwise ... 24

24a. Abdomen with a longitudinal white band (1959, fig. 287); epigynum as in 1959, figure 286; Mexico ... *moctezuma*

24b. Abdomen with two longitudinal white lines (1959, fig. 283); epigynum as in 1959, figure 282; Panama, Trinidad, Peru ... *petrum*

25a. Epigynum with a ventrally projecting tongue, with openings at its base (Figs. 263-265); Panama ... *micheneri*

25b. Epigynum with a knob ... 26

26a. SR on each side of light knob (1959, figs. 277-279); Mexico to Ecuador ... *colima*

26b. SR anterior to dark knob (1959, figs. 322-323); Jamaica ... *clemens*

27a. Spots or openings within a central depression or part of its margin. 96

27b. Spots or openings not within or part of a central depression ... 28

28a. Dark spots on each side of lip-like posterior rim of depression (1959, figs. 309, 310); Mexico ... *chilapa*

28b. Spots not on each side of the posterior rim of median depression .. 29

29a. Two dark spots in a common sclerotized area ... 30

29b. Spots or openings light and not joined ... 38

30a. CD visible posterior to sclerotized area (1959, fig. 200; Fig. 69); Venezuela ... 31

30b. No ducts visible posterior to sclerotized area ... 32

31a. Openings on raised posterior rim of depression (1959, figs. 199, 200); Mexico ... *frio*

31b. Openings on subcircular dark spot (Figs. 68, 69); Venezuela .. *aragua*

32a. Dark spots on anterior edge of sclerotized area ... 33

32b. Dark spots not on anterior edge of sclerotized area ... 34

33a. CD looping beyond anterior edge of SR (1959, figs. 72, 73); Mexico *davisorum*

33b. CD elbowed posterior to SR (1957, figs. 95, 96); Mexico, West Indies ... *myersi*

34a. Epigynum with a rounded posterior sclerotized margin (Figs. 80, 81); Panama to Ecuador ... *rufipunctum*

34b. Epigynum otherwise ... 35

35a. Dark spots anterior to triangular raised area (1959, fig. 108); Mexico ... *coyoacan*

35b. Dark spots otherwise ... 36

36a. Dark spots in center of sclerotized shield (Figs. 50, 51); Chile ... *linaresense*

36b. Dark spots otherwise ... 37

37a. Dark spots on lateral edge of sclerotized area (Figs. 188, 189); Peru .... *machu*

37b. Dark spots on sides of a knob (1959, figs. 163, 164); Mexico .... *niveum*

38a. Spots dark 39

38b. Spots or openings light 60

39a. Spots touching posterior margin 40

39b. Spots at least their diameter from margin 43

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Key to Male *Theridion* of Mexico, West Indies, Central and South America

(Abbreviations used: C, conductor; E, embolus; M, median apophysis; R, radix; T, tegulum). Figures capitalized refer to illustrations in this paper.

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24a. E loop longer than wide (Figs. 3, 4); Brazil .... *bolum*
24b. E loop as long as wide or wider than long 25
25a. Filiform part originating from mesal margin of E base (1957, fig. 154); Mexico .... *transgressum*
25b. Filiform part originating from distal or ectal border 26
26a. Filiform part originating from distal border of E base (1959, figs. 101, 102); Mexico; West Indies to Brazil .... *hispidum*
26b. Filiform part originating from ectal margin of E base (Figs. 21, 24) 27
27a. E base with a distal hump (Fig. 21); Ecuador, Peru .... *fastosum*
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28a. Palpus wider than long (Fig. 24); southern Brazil .... *tinctorium*
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29a. Cephalic portion of carapace black; Mexico, West Indies .... *australe*
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33a. T swollen, E on mesal side of palpus 34
33b. T otherwise 36
34a. Width of filament greater than space between it and E base (1957, fig. 128); Mexico .... *cynicum*
34b. Width of E filament less than space between it and base 35

35a. Diameter of E loop about half length of palpus (1957, fig. 117); Mexico, West Indies .... *submissum*
35b. Longest diameter of E loop about two-thirds length of palpus (Fig. 25); Mexico .... *opuntia*
36a. M prominent 40
36b. M lightly sclerotized 37
37a. Palpus as in Figure 54; Chile .... *ambiguum*
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39b. Palpus as in Figure 236; Brazil .... *olaup*
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41a. Filament short (Fig. 236); Brazil .... *olaup*
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42a. E base with distal lobe (Fig. 47); Peru .... *utcuyacu*
42b. E base otherwise 43
43a. Filiform part originating on distal margin of E base (Figs. 36, 37); Colombia, Ecuador .... *iramon*
43b. E otherwise 44
44a. M disk-shaped (1957, fig. 124); Mexico .... *dilutum*
44b. M otherwise 45
45a. T rugose on ectal side (1957, fig. 103); West Indies .... *flavonotatum*
45b. T smooth 46
46a. M with a distally projecting tooth (1957, figs. 57, 133, 135) 47
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47a. C large, sclerotized (1957, fig. 58); Mexico .... *murarium*
47b. C small, weakly sclerotized 48
48a. Filiform portion originating on ectal side of E base (1957, fig. 136); Baja California .... *geminipunctum*
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49a. M with two subequal prongs (Figs. 30, 31); eastern Brazil .... *pernambucum*
49b. M otherwise 50
50a. M two-pronged, with proximal prong longer 51
50b. M otherwise 52
51a. M with an anterior broad lobe (1957, fig. 87); Mexico .... *cinctipes*
51b. M without anterior lobe (Figs. 40, 41); Venezuela .... *stamotum*
52a. Distal edge of E base almost straight and transverse to long axis of palpus 53
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53a. C projecting on mesal side (1959, fig. 81); West Indies, Central America, Venezuela .... *dilucidum*
53b. C otherwise 54

54a. E filament touching base of palpus (1959, fig. 104); Panama .... *valleculum*
54b. E filament short (1957, fig. 98); Mexico, West Indies .... *myersi*
55a. M with bulges facing distally (1957, figs. 81, 82); Bahama Isl. . *rabuni*
55b. M with a proximally directed prong (1959, figs. 85, 86); Panama ... *galerum*
56a. Palpus as in Figure 229; Venezuela .... *osprum*
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58b. Abdomen black, venter with a median white spot; E without mesal distal lobe (1959, figs. 128-135); Mexico, West Indies to Brazil... *evexum*
59a. Palpal tibia longer than palpus (1957, fig. 263); Baja California.. *punctipes*
59b. Palpal tibia shorter than palpus; or if as long, found in South America or West Indies 60
60a. T a heavily sclerotized ectal shield (Fig. 75); Peru ..... *grandiosum*
60b. T otherwise 61
61a. M with three prongs (1959, fig. 136); Central America ..... *tristani*
61b. M otherwise 62
62a. M with one prong, portion visible in ventral view longer than wide (Fig. 136) 63
62b. M with two prongs, or portion visible in ventral view wider (higher) than long (Figs. 109, 119, 125) 68
63a. Prong sickle-shaped; two parallel ducts visible in T (1959, figs. 165-167); Mexico .... *niveum*
63b. Prong otherwise 64
64a. Prong with a ventral distal notch (1959, figs. 181, 182); Mexico.... *martini*
64b. Prong otherwise 65
65a. Prong with large projection on distal surface (Figs. 135, 136); Mexico .... *schrammeli*
65b. Prong otherwise 66
66a. Only tip of prong visible beyond cymbium margin (1959, figs. 203, 204); Mexico .... *uncatum*
66b. Prong otherwise 67
67a. Prong in ventral view slightly S-shaped, T with a distal notch (Fig. 108); Peru .... *huanuco*
67b. Prong in ventral view straight, T without notch (1959, figs. 155-158); Panama .... *metabolum*
68a. M with two prongs 75
68b. M with one prong higher (wider) than long 69

69a. M disk-shaped with proximal notch (1959, figs. 179, 180); Mexico, Panama .... *trepidum*

69b. M otherwise 70

70a. M with distally directed spine (Fig. 110) 72

70b. M without prongs or spines (1959, figs. 146, 150); Mexico 71

71a. Mesal margin of T bulging (1959, fig. 147) .... *contreras*

71b. Mesal margin of T with a shallow notch (1959, fig. 151) .... *leones*

72a. M with a tooth in middle of ventral margin (1959, fig. 140); Puerto Rico .... *ricense*

72b. M without tooth in middle of ventral margin 73

73a. T ducts nearly parallel; M with small prong on proximal margin (1959, figs. 175, 176, 201, 202) 74

73b. T ducts not parallel; M with lobe on proximal margin (Figs. 109, 110); Venezuela to Ecuador .... *frizzellorum*

74a. E with a mesal, distal lobe (1959, fig. 202); Mexico .... *dreisbachi*

74b. E with mesal edge concave (1959, fig. 176); Guatemala .... *omiltemi*

75a. Proximal prong twice as long as distal (Figs. 135, 136); Mexico .... *schrammeli*

75b. Prongs subequal in length or distal prong longer 76

76a. Prongs separated by at least twice length of longest one (1959, fig. 142) 77

76b. Prongs separated by less than length of longest one 78

77a. Distal prong truncate (1959, fig. 150); Mexico .... *leones*

77b. Distal prong curved (1959, fig. 142); Mexico .... *crucum*

78a. Proximal prong notched on distal surface (Figs. 119, 120); Venezuela .... *botanicum*

78b. Proximal prong not notched 79

79a. Distal prong narrower than proximal one 80

79b. Distal prong wider or subequal to width of proximal prong 81

80a. Distal prong elbowed (Figs. 125, 126); Venezuela .... *tebanum*

80b. Distal prong straight (Figs. 131, 132); Mexico to Brazil .... *unanimum*

81a. Distal prong with a tooth and notch on proximal margin (1959, fig. 118) and T extending distal of M (1959, fig. 119); Mexico .... *sanctus*

81b. M or T otherwise 82

82a. E U-shaped with both ends of equal width (Figs. 70, 71); Venezuela .... *aragua*

82b. E otherwise 83

83a. Distal prong elbowed in mesal view; both prongs projecting ventrally (1957, figs. 296, 297); Mexico .... *morulum*

83b. M otherwise 84

84a. Proximal prong a small lobe on proximal margin of distal prong; distal prong extending more than four times length of proximal prong (Figs. 64, 121); Bolivia 85

84b. M larger and distal lobe extending not more than three times length of proximal prong (1959, fig. 120) 86

85a. T with two parallel ducts; distal margin of distal prong swollen (Figs. 64, 65) .... *rurrenabaque*

85b. T with ducts not visible; distal prong without swelling (Figs. 121, 122) .... *chacoense*
86a. E with a ventral bulge (1959, fig. 110); Mexico .... *coyoacan*
86b. E without ventral bulge 87
87a. C widest at base; mesal T duct straight (1959, figs. 120, 121); Mexico .... *barbarae*
87b. C widest at distal end; mesal T duct curved 88
88a. Mesal T duct with a proximal loop, ectal duct with a distal loop (1959, fig. 106); Mexico .... *rothi*
88b. Ducts otherwise 89
89a. T wider than long with 2 subparallel ducts (Figs. 127, 128); Venezuela .... *ravum*
89b. T longer than wide, ducts otherwise 90
90a. E with mesal distal projection; proximal M prong touching tibia (1959, figs. 111-112); Mexico to Panama .... *adjacens*
90b. E concave on mesal distal margin; proximal M prong some distance from palpal tibia (Figs. 100, 101); Venezuela to Argentina .... *calcynatum*
91a. Subtegulum and T heavily sclerotized almost black (Fig. 209); Brazil .... *aulos*
91b. Subtegulum and T never heavily sclerotized 92
92a. T ducts with several lateral loops, duct as wide as space between loops (1959, fig. 252); Panama .... *akron*
92b. T otherwise 93
93a. E with ventral tooth, C with transverse spine (1957, figs. 188, 189); cosmotropical .... *rufipes*
93b. E and C otherwise 94
94a. Cymbium drawn out on mesal, distal margin (1957, figs. 222-224); Mexico to Ecuador .... *crispulum*
94b. Cymbium rounded distally 95
95a. T duct S-shaped (Fig. 234) 96
95b. T duct otherwise 97
96a. E, C directed mesally (1959, fig. 326); Panama to Venezuela .... *marvum*
96b. E, C directed almost parallel to cymbium axis; C with ectal bulge (Fig. 234); Venezuela .... *beebei*
97a. Palpal femur with spine (Figs. 237, 238); Ecuador, Peru .... *exlinae*
(also probably Argentina .... *bergi*)
97b. Palpal femur without spine 98
98a. R with a curved extension beyond cymbium (1959, fig. 288); Mexico .... *moctezuma*
98b. R otherwise 99
99a. Most sclerites hidden; only an oval structure visible on distal end of T (Fig. 235); Mexico .... *cuyutlan*
99b. Palpus otherwise 100
100a. T with a distal loop in duct (1959, figs. 266, 325) 102
100b. T duct otherwise 101

101a. E very large, base larger than visible portion of T in ventral view (Fig. 244); southern Brazil .... *plaumanni*

101b. Visible T portion always larger than E base 103

102a. C narrow, extending beyond cymbium (1959, figs. 265, 266); Panama to Ecuador .... *panamense*

102b. C otherwise (1959, fig. 325); Mexico .... *ruinum*

103a. E unsupported, hook-shaped (Fig. 206); Venezuela .... *maranum*

103b. E otherwise 104

104a. Sclerites appearing pincer-like at distal end of palpus (Fig. 231); Mexico .... *stannardi*

104b. Sclerites otherwise 105

105a. C squarish, stalked (Figs. 225, 233) 106

105b. C of different shape 107

106a. Palpus as in Figure 233; Venezuela to Peru .... *rampum*

106b. Palpus as in Figure 225; Brazil .... *opolon*

107a. T tipped by a bulging transparent sclerite (1959, fig. 268); Panama .... *chiriqui*

107b. T otherwise 108

108a. C a transparent stalk (Figs. 162, 174) 109

108b. C otherwise; palpus as in 1959, figure 284; Panama, Trinidad, Peru .... *petrum*

109a. Tip of E bent mesally or distally (1959, fig. 249; Fig. 174); Panama to Peru .... *minutissimum*

109b. Tip of E bent ectally (1957, fig. 225; Figs. 161, 162); Mexico, West Indies to southern Brazil .... *atropunctatum*

110a. T with an eye-like spot (Figs. 207, 208); Brazil .... *umbilicus*

110b. T otherwise 111

111a. Cymbium wrapped around bulb (1959, fig. 205); Guatemala .... *cavipalpe*

111b. Cymbium otherwise 112

112a. C projecting beyond ectal margin of cymbium 113

112b. C otherwise 114

113a. C distally bulging (1959, fig. 332); Panama .... *signum*

113b. C distally only slightly expanded (1959, fig. 333); Panama, Brazil .... *signaculum*

114a. T with a mesal spine (probably the C) (1959, fig. 328); Mexico .... *bridgesi*

114b. T otherwise 115

115a. T duct with a distal loop (1959, figs. 276, 317, 330, 331); Central America 116

115b. T without such loop 119

116a. Cymbium with a mesal spine (1959, fig. 276) .... *lathropi*

116b. Cymbium without spine 117

117a. E extending beyond C (1959, fig. 331) .... *schmidti*

117b. C extending beyond E 118

118a. Palpus as in 1959, figure 317 .... *quantum*

118b. Palpus as in 1959, figure 330 .... *paidiscum*

119a. Palpus with a sclerite projecting mesally (1959, fig. 324); Jamaica *clemens*
119b. Palpus otherwise 120
120a. C tip sclerotized and as in 1959, figure 327; Nicaragua . . *musawas*
120b. Palpus otherwise 121
121a. C, E, M elbowed (1959, fig. 231); Panama . . . . *rufipunctum*
121b. Palpus otherwise 122
122a. Palpus weakly sclerotized and as in 1959, figure 222; Jamaica *jamaicense*
122b. Palpus otherwise; South America 123
123a. E in ectal half of palpus (Fig. 230); Brazil . . . . *urucum*
123b. E in mesal half of palpus 124
124a. Palpus as in Figure 226; southern Brazil . . . . *ribiginosum*
124b. Palpus otherwise 125
125a. E bent (Fig. 227); Brazil . . . . *aporum*
125b. E straight (Fig. 229); Venezuela . . . . *osprum*

THERIDION GLAUCESCENS Becker

Theridion glaucescens Becker, 1879, Ann. Soc. Ent. Belgique, 22: 81, pl. 1, fig. 11, ♀. —Levi, 1957, Bull. Amer. Mus. Nat. Hist., 112: 44, figs. 152, 153, 155, 156, ♀, ♂, map 14.

Theridion volatile Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 1: 60, pl. 3, fig. 35, ♀, ♂. Female syntypes from Caracas, Venezuela, in the Institut Royal des Sciences Naturelles de Belgique, examined. NEW SYNONYMY.

Note. The type locality of *T. volatile* is almost certainly in error since *T. glaucescens* is not known south of the United States. Specimens of *T. volatile* belonging to the Keyserling collection in the British Museum, from Florida, are *T. flavonotatum* Becker.

THERIDION DILUCIDUM Simon

Map 3

Theridion dilucidum Simon, 1897, Proc. Zool. Soc. London, p. 862. Female type from St. Vincent Island in the British Museum, examined. —Levi, 1959, Bull. Mus. Comp. Zool., 121: 84, figs. 78-81, ♀, ♂.

Additional records. Lesser Antilles: Baltazar Isl. in piles of rotten weeds. *Venezuela. Dist. Fed.:* Caracas, 1887-1888 (E. Simon, MNHN).

THERIDION FILUM sp. n.

Figures 1-2

Holotype. Male from Nova Teutonia, lat 27°11′S, long 52°23′W, Santa Catarina, Brazil (F. Plaumann), in the Senckenberg Museum (no. RII/8129/1). The specific name meaning thread, is a noun in apposition.

Description. Carapace, sternum, legs yellow. Abdomen whitish with some gray and white pigment. Venter with a transverse gray line anterior to spinnerets. Anterior median eyes slightly larger than others, lateral eyes smallest. Anterior median eyes one diameter apart, less than one-quarter diameter from laterals. Posterior median eyes two-thirds diameter apart, one diameter from laterals. Total length 1.9 mm. Carapace 0.78 mm long, 0.69 mm. wide. First femur, 1.82 mm; patella and tibia, 1.95 mm; metatarsus, 1.56 mm; tarsus, 0.55 mm. Second patella and tibia, 1.03 mm; third, 0.57 mm; fourth, 0.91 mm.

Diagnosis. The anterior-pointing median apophysis (Figs. 1, 2) separates this species from *T. bolum.*

THERIDION BOLUM sp. n.

Figures 3-4

Holotype. Male from Minas de Serrinha, Diamantina, Minas Gerais, Brazil, Jan. to March 1945 (E. Cohn), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace yellowish with gray margin and head region gray. Sternum gray. Abdomen dark gray with faint indications of two wavy lines on dorsum and intermediate area lighter. Two light spots anterior on dorsum, but no distinct marks on venter. Eyes subequal in size. Anterior median eyes one and one-half diameters apart, almost touching laterals. Posterior eyes their diameter apart. Total length 2.0 mm. Carapace 0.80 mm long, 0.75 mm wide. The specimen has all its legs missing.

Diagnosis. The shape of the long embolus and large median apophysis (Fig. 3) separate this species from *T. transgressum* Petrunkevitch.

THERIDION SOARESI nomen novum

Figure 5

Theridion bertkaui Soares and Camargo, 1948, Bul. Mus. Paraense, E. Goeldi, 10: 367, fig. 21, ♂. Male type from Chavantina, Mato Grosso, Brazil, in the Dept. de Zoologia de Secretaria da Agricultura, São Paulo, examined. Not *Theridion bertkaui* Thorell, 1881; *Theridion bertkaui,* Bösenberg, 1899.

The spider is almost all white except for two small areas on each side and above spinnerets which have some black pigment. Anterior median eyes slightly larger than others, two-thirds their diameter apart, one-quarter diameter from laterals. Posterior eyes one diameter apart. Abdomen longer than wide or high. Total length 2.2 mm. Carapace 0.9 mm long, 0.7 mm wide. First femur, 1.6 mm; patella and tibia, 1.7 mm. Second patella and tibia, 1.2 mm; third, 0.7 mm; fourth, 1.1 mm.

The only palpus is mounted in balsam that has crystallized. The palpus has cleared and is slightly flattened (Fig. 5).

THERIDION STRIATUM Keyserling
Figures 6-9

Theridium striatum Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 95, pl. 5, fig. 62, ♂. Male holotype from Brazil in the Berlin Museum, apparently lost. — Göldi, 1892, Mitt. Osterlande, neue Folge, 5: 213.

Göldi (1892) indicates that this species was collected in Rio de Janeiro. This species has unusual coloration: a series of black lines on each side of the abdomen dorsum (Fig. 9). It is remarkable that the only available collection of this species contained female specimens of a nesticid of almost similar appearance and also having black lines on the sides of the dorsum.

Record. Brazil. São Paulo: Cidade São Paulo, Botanical Gardens, Jan. 1959, ♀, ♂ (A. M. Nadler, AMNH).

THERIDION VOLUBILE Keyserling
Figures 10-13

Theridium volubile Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 37, pl. 2, fig. 19, ♀. Female lectotype here designated from Amable María, [640 m elev., Junín, prov. Tarma], Peru, in the Polish Academy of Sciences, Warsaw, examined.

This species is of variable coloration, large collections having both white and dark individuals. Some have the venter light, others black with a white spot on each end of the genital groove and a pair of white spots side by side behind the groove.

The subcircular opening of the epigynum (Figs. 12, 13) varies somewhat in shape, but always has the posterior margin dark. The coils of the connecting ducts are diagnostic but are difficult to see in very dark individuals without examining the internal genitalia (Fig. 11). It is possible that the Brazilian *T. subrotundum* is the same species.

Figures 11 and 12 were prepared from a syntype specimen.

Natural History. This species has been found under stones near Lima and Lobitos, Peru.

Records. Venezuela. Dist. Fed.: Caracas, 1887-1888 (E. Simon, MNHN). *Aragua:* Tovar, 1888 (E. Simon, MNHN). *Ecuador. Manabi:* Manta (H. E., D. L. Frizzell). *Tungurahua:* Baños (H. E., D. L. Frizzell); Ambato (H. E., D. L. Frizzell). *Guayas:* Guayaquil (H. E., D. L. Frizzell). *Peru. Piura:* Cerro Negro (H. E., D. L. Frizzell); Sullana (H. E., D. L. Frizzell); Quebrada Tamarinda (H. E., D. L. Frizzell); Quebrada Mogollón (H. E., D. L. Frizzell); Mallares, Río Chira (D. L. Frizzell); 4 km E of Cabo Blanco (R. Walls); Buena Vista (H. E., D. L. Frizzell); Lobitos (R. Walls). *Junín:* Utcuyacu, 1600-2200 m elev. (F. Woytkowski); Colonia del Perené (E. I. Schlinger, E. S. Ross, CAS). *Lima:* Lima (W. Weyrauch; A. M. Nadler, AMNH). *Arequipa:* Capac, Chala, 200 m elev. (W. Weyrauch, AMNH).

THERIDION SUBROTUNDUM Keyserling

Figures 14-16

Theridium subrotundum Keyserling, 1891, Die Spinnen Amerikas, Brasilianische Spinnen, 3: 183, pl. 6, fig. 128, ♀. Female type Fazenda Serra Vermelha, [Est. Rio de Janeiro], Brazil, in the British Museum, examined.

The abdomen of this species is slightly wider than long. It is possible that the name is a synonym of *T. volubile*, but no specimens other than the types have been found, and *T. volubile* is not known from Brazil.

THERIDION ANTRON sp. n.

Figures 17-18

Holotype. Female from Teresópolis, 900-1000 m elev., Est. Rio de Janeiro, Brazil, March 1946 (H. Sick), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace yellowish with a median gray line, as wide as eye region in front, narrowing behind. Sternum grayish yellow. Legs yellow with indistinct narrow bands on distal segments. Dorsum of abdomen with two white lines encircling a darker area anteriorly. Sides whitish with some dark pigment. Venter dark with several dark streaks going up sides and a median white spot between spinnerets and epigynum. A specimen from Pernambuco had the sternum black, abdomen with dorsum white, and venter with a black spot anterior to spinnerets. Eyes subequal in size. Anterior median eyes one diameter apart, one-quarter diameter from laterals. Posterior median eyes one diameter apart, three-quarters diameter from laterals. Total length 2.4 mm. Carapace 0.93 mm long, 0.80 mm wide. First femur, 1.82 mm; patella and tibia, 1.87 mm; metatarsus, 1.40 mm; tarsus, 0.52 mm. Second patella and tibia, 1.05 mm; third, 0.67 mm; fourth, 0.98 mm.

Diagnosis. The epigynum of this species (Fig. 18) is an indistinct structure, the opening is anterior and difficult to see. The seminal receptacles are sclerotized (Fig. 17), but the ducts translucent. Since only few specimens were available for examination, the course of the ducts is somewhat uncertain. It differs from *T. cohni* by having the seminal receptacles posterior to the opening and having the opening lightly sclerotized.

Record. Brazil. Pernambuco: ♀ (SMF). *Santa Catarina:* Nova Teutonia, lat 27°11′S, long 52°23′W, 2 ♀ (F. Plaumann, SMF).

THERIDION COHNI sp. n.

Figures 19-20

Holotype. Female from Minas Serrinha, Diamantina, Minas Gerais, Brazil, Dec. 1944 (E. Cohn), in the American Museum of Natural History. The species has been named after the collector.

Description. Carapace dusky yellow, darker on sides and head region. Sternum black. Legs yellow-white with narrow black rings. Abdomen whitish with a median white band with regular wavy margins, and a dark outline. Venter black with a white spot on each side of epigastric area and one white spot behind epigynum. Eyes subequal in size. Anterior median eyes three-quarters diameter apart, almost touching laterals. Posterior median eyes their radius apart, a little more than their radius from laterals. Total length 3.3 mm. Carapace 0.98 mm long, 0.91 mm wide. Second patella and tibia, 1.45 mm; third, 0.91 mm; fourth, 1.56 mm.

Diagnosis. The coloration suggests that this species belongs to the *T. murarium* group. The symmetrical coils of the connecting ducts (Fig. 19) separate it from *T. transgressum* Petrunkevitch which also has the opening far forward (Fig. 20). The anterior seminal receptacles separate it from *T. antron*.

THERIDION FASTOSUM Keyserling

Figures 21-23

Theridium fastosum Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 58, pl. 3, fig. 34, ♀, ♂. Male lectotype here designated from Pacasmayo, [Libertad], Peru, in the Polish Academy of Sciences, Warsaw, examined.

This small species has an epigynum (Fig. 23) resembling that of *T. sexpunctatum* Emerton, but the palpus (Fig. 21) indicates that it belongs to the *T. murarium* group. It is close to *T. hispidum* O. P.-Cambridge. However, small consistent differences in the female ducts (Fig. 22) and the position of the basal portion of the embolus separate it.

Figure 21 was prepared from the male lectotype.

Distribution. Southwestern Ecuador and northwestern Peru.

Records. Ecuador. Los Ríos: Macuchi (H. E., D. L. Frizzell). *Guayas:* Puna Isl. (H. E., D. L. Frizzell); Milagro (H. E., D. L. Frizzell); Guayaquil (H. E., D. L. Frizzell; A. M. Nadler, AMNH). *Peru. Piura:* Miramar (H. E., D. L. Frizzell); Mallares, Río Chira (H. E., D. L. Frizzell); Sullana (H. E., D. L. Frizzell); Pirañas Valley (H. E., D. L. Frizzell). *Libertad:* Pacasmayo, ♀ paratypes (BMNH, PAS).

THERIDION HISPIDUM O. P.-Cambridge

Figures 194-195; Map 2

Theridion hispidum O. P.-Cambridge, 1898, Biologia Centrali-Americana, Araneidea, 1: 253, pl. 35, fig. 5, ♂. Male type from Teapa, [Tabasco], Mexico, in the British Museum. —Levi, 1959, Bull. Mus. Comp. Zool., 121: 86, figs. 95-102, ♀, ♂, map 3.

Description. Female from Rio de Janeiro. Carapace, sternum, legs yellow. Abdomen whitish with a median dorsal white band with a wavy outline and slightly darker on sides, darkest above spinnerets. Eyes subequal in size. Anterior median eyes one diameter apart, almost touching laterals. Posterior eyes two-thirds diameter apart. Total length 2.0 mm. Carapace 0.88 mm long, 0.78 mm wide. First femur, 1.70 mm; patella and tibia, 1.71 mm; metatarsus, 1.32 mm; tarsus, 0.53 mm. Second patella and tibia, 1.05 mm; third, 0.66 mm; fourth, 0.99 mm.

Figures 194-195 were made from Buenos Aires specimen.

Note. It is very likely that *T. tinctorium,* known from only the male type from Rio Grande do Sul, belongs to this species. However, it differs in the place of attachment of the filiform portion of the embolus.

Distribution. Mexico, Central America, West Indies, Venezuela, Ecuador, Brazil (Map 2).

Additional records. Mexico. Sonora: El Coyote, 1000 m, web in *Opuntia* cactus, 19 July 1960 (J. A. Beatty). *Yucatan:* Uxmal (C., P. Vaurie, AMNH). *Haiti:* Furcy (A. M. Nadler, AMNH). *Puerto Rico:* Rubianes, Caimital Bajo Ag. (A. F. Archer, AMNH). *Venezuela. Dist. Fed.:* Caracas, 1887-1888 (E. Simon, MNHN); La Guaira, 1887-1888 (E. Simon, MNHN). *Carabobo:* San Esteban, 1888 (E. Simon, MNHN). *Ecuador. Guayas:* Milagro, July 1943 (H. E., D. L. Frizzell). *Brazil. Pará:* Belém, Feb. 1959, ♂ (A. M. Nadler). *Guanabara:* Sumaré, 200-300 m, Rio de Janeiro (H. Sick, AMNH). *Paraguay.* ♀.

THERIDION TINCTORIUM Keyserling
Figure 24

Theridium tinctorium Keyserling, 1891, Die Spinnen Amerikas, Brasilianische Spinnen, 3: 185, pl. 6, fig. 130, ♂. Male holotype from Rio Grande do Sul, Brazil, in the British Museum, examined.

Figure 24 was prepared from the holotype. This specimen may belong to *T. hispidum* O. P.-Cambridge, but there are some differences in the structure of the embolus.

THERIDION OPUNTIA sp. n.
Figures 25-29

Holotype. Male from El Coyote, 970 m elev., Sonora, Mexico, in webs of *Opuntia*, 9 July 1960 (J. A. Beatty) in the Museum of Comparative Zoology. The specific name is a noun in apposition after the cactus genus.

Description. Carapace yellowish. Eye region grayish with a gray line going from lateral eyes to center of carapace and a black, median, longitudinal line posterior. Sternum yellow. Legs yellow. Abdomen with two long fine jagged white lines, black between and outside of lines. Sides whitish, venter whitish without pigment. Female darker than male, legs with dark spots more distinct below. Female has black semicircular marks on each side of pedicel. Anterior median eyes slightly larger than others, their diameter apart, one-quarter diameter from laterals. Posterior median eyes two-thirds diameter apart, one diameter from laterals. Total length of female 3.0 mm. Carapace 1.1 mm long, 0.9 mm wide. First femur, 2.00 mm; patella and tibia, 2.20 mm; metatarsus, 0.80 mm; tarsus, 0.24 mm. Second patella and tibia, 1.20 mm; third, 0.84 mm; fourth, 1.4 mm. Total length of male 2.3 mm. Carapace 0.92 mm long, 0.88 mm wide. First femur, 1.95 mm; patella and tibia, 2.00 mm; metatarsus, 1.75 mm; tarsus, 0.60 mm. Second patella and tibia, 1.10 mm; third, 0.80 mm; fourth, 1.20 mm.

Diagnosis. The embolus (Fig. 25) is larger than that of *Theridion submissum* Gertsch and Davis. The tegulum is more spherical than that of *T. dilutum* Levi. The female ducts (Figs. 26, 29) widen before reaching the seminal receptacles, and loop anterior to them. The position seems to be quite variable. The epigynum (Figs. 27, 29) is quite an indistinct structure.

Records. 2 ♀ paratypes collected with ♂ holotype.

THERIDION PERNAMBUCUM sp. n.

Figures 30-33

Holotype. Female from Recife, Pernambuco, Brazil, in the Senckenberg Museum (no. RII/13439/1). The species is named after the state of Pernambuco.

Description. Carapace, sternum dark gray-brown. Legs yellow with coxae, patellae black and narrow black bands around distal ends of segments, except tarsi darker yellow. Dorsum of abdomen whitish with a longitudinal white band having wavy margins on a darker background. Venter of abdomen black, usually with a white spot on each side near epigynum and a pair of white spots behind epigynum; short, black extensions anterior to and on each side of spinnerets. However, markings on venter quite variable. The male is lighter than the female and the carapace and sternum are yellowish. Eyes subequal in size. Anterior median eyes one diameter apart, less than half their radius from laterals. Posterior eyes two-thirds their diameter apart. Chelicerae without teeth. Total length of female 1.5 mm. Carapace 0.59 mm long, 0.59 mm wide. First femur, 0.85 mm; patella and tibia, 0.86 mm; metatarsus, 0.62 mm; tarsus, 0.39 mm. Second patella and tibia, 0.62 mm; third, 0.47 mm; fourth, 0.69 mm. Total length of male 1.4 mm. Carapace 0.68 mm long, 0.64 mm wide. First femur, 1.06 mm; patella and tibia, 1.20 mm; metatarsus, 0.96 mm; tarsus, 0.35 mm. Second patella and tibia, 0.75 mm; third, 0.55 mm; fourth, 0.78 mm.

Diagnosis. The epigynum has a unique median, sclerotized partition; the openings are on each side, and each has a posterior lip (Fig. 33). The median apophysis of the palpus has two huge lobes (Fig. 30). These characters separate this species from others of the *T. murarium* group.

Records. ♀, ♂ paratypes from Pernambuco, Brazil, and ♀ paratype collected with holotype.

THERIDION CHORONI sp. n.

Figures 34-35

Holotype. Female from Choroní, Rancho Grande, Aragua, Venezuela, 9 March 1959 (A. M. Nadler), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace yellowish-white with a median longitudinal, dusky band, as wide as eye region in front, narrower behind. Sternum yellow-white. Legs yellow-white with indistinct darker bands. Abdomen with a median dorsal, longitudinal white band; some white marks on sides and some black area. Venter of abdomen whitish. Eyes subequal in size. Anterior median eyes one diameter apart, their radius from laterals. Posterior median eyes a little less than their diameter apart, one diameter from laterals. Total length 1.7 mm. Carapace 0.88 mm long, 0.70 mm wide. First femur, 1.28 mm; patella and tibia, 1.32 mm; metatarsus, 1.04 mm; tarsus, 0.52 mm. Second patella and tibia, 0.91 mm; third, 0.65 mm; fourth 1.03 mm.

Diagnosis. The epigynum of the female has two circular openings, their diameter apart (Fig. 35). Anterior to the openings and behind are indications of shadows of the long dark connecting ducts. The seminal receptacles (Fig. 34) are oval and thin-walled. *T. choroni* is not similar to any other *Theridion.*

THERIDION IRAMON sp. n.

Figures 36-39

Holotype. Male from Baños, Tungurahua Prov., Ecuador, 7 May 1942 (H. E. Frizzell), in the Museum of Comparative Zoology. The specific name is an arbitrary combination of letters.

Description. Carapace, sternum grayish yellow-brown. Legs yellow-brown. Abdomen black, with dorsum having two parallel white lines with branches down sides; lines are fused in front and behind where they continue as a single median line to spinnerets. Female is darker than male and has abdomen black with only light area posterior to genital furrow. Anterior median eyes slightly larger than others, two-thirds diameter apart, one-third diameter from laterals. Posterior median eyes a little more than one diameter apart, one and one-quarter diameters from laterals in male, slightly farther apart in female. Chelicerae with two teeth on anterior margin. Total length of female 7.2 mm. Carapace 3.2 mm long, 2.5 mm wide. First femur, 5.4 mm; patella and tibia, 6.5 mm; metatarsus, 4.7 mm; tarsus, 1.6 mm. Second patella and tibia, 3.9 mm; third, 2.9 mm; fourth 4.4 mm. Total length of male 3.9 mm. Carapace 1.8 mm long, 1.6 mm wide. First femur, 3.7 mm; patella and tibia, 4.2 mm; metatarsus, 4.0 mm; tarsus, 1.4 mm. Second patella and tibia, 2.7 mm; third, 1.7 mm; fourth, 2.5 mm.

Variation. A specimen from Colombia is larger and shows slight differences in the palpus.

Diagnosis. The very dark coloration readily separates the species from most other *Theridion.* The female unaccompanied by the male might erroneously be placed in the genus *Achaearanea.* Unlike others of the *T. frondeum* group, the palpus has a ventral embolus (Fig. 37), being intermediate with species of the *T. murarium* group.

Records. Colombia. Narino: 25 km E of Santiago, 3 March 1955 (E. I. Schlinger, E. S. Ross, CAS). *Ecuador. Pichincha:* Quito, paramo, 3400 m, 25 April 1942, 3 ♀ (H. E. Frizzell).

THERIDION STAMOTUM sp. n.

Figures 40-41

Holotype. Male from Caracas, Venezuela, Dec. 1887 to Feb. 1888 (E. Simon), in the Muséum National d'Histoire Naturelle, Paris (no. 10877). The specific name is an arbitrary combination of letters.

Description. Carapace yellow-white with a narrow median longitudinal line and a fine gray border. Sternum, legs yellow-white. Abdomen grayish white with two rows of white spots, smaller white spots on sides and several gray spots on posterior portion of dorsum. Venter unmarked. Eyes subequal in size. Anterior median eyes their diameter apart, almost touching laterals. Posterior median eyes separated by two-thirds diameter, by one diameter from laterals. Chelicerae without teeth. Total length 1.3 mm. Carapace 0.60 mm long, 0.52 mm wide. First femur, 1.06 mm; patella and tibia, 1.14 mm; metatarsus, 0.78 mm; tarsus, 0.42 mm. Second patella and tibia, 0.71 mm; third, 0.50 mm; fourth, 0.64 mm.

Diagnosis. This species belongs to the *T. murarium* group. The shape of the median apophysis (Fig. 40) and of the radix (Fig. 41) separate it from *T. dividuum* Gertsch and Archer.

THERIDION YUMA sp. n.

Figures 42-43

Holotype. Male from Gila Valley, Yuma County, Arizona, 7 March 1956 (V. Roth) in the Museum of Comparative Zoology. The specific name is a noun in apposition after the type locality.

Description. Carapace yellowish with a narrow median black line, most distinct in the thoracic region; line around margin of carapace. Legs yellow-white with fine black bands at middle and ends of segments. Dorsum of abdomen with a median white band, its jagged margins bordered by dusky and black marks; venter with a black spot behind epigastric groove and a black spot on each side of epigastric area and one on each side of pedicel. Eyes subequal in size. Anterior median eyes one diameter apart, almost touching laterals. Posterior median eyes less than one diameter apart. Total length 1.2 mm. Carapace 0.58 mm long. First femur, 1.23 mm; patella and tibia, 1.50 mm; metatarsus, 1.06 mm; tarsus, 0.52 mm. Second patella and tibia, 0.84 mm; third, 0.55 mm; fourth, 0.78 mm.

Diagnosis. Theridion yuma has a shorter embolus and a larger conductor than *T. rabuni* Chamberlin and Ivie. It differs from *T. llano* Levi in the shape of the median apophysis (Figs. 42, 43).

THERIDION UTCUYACU sp. n.

Figures 47-49

Holotype. Male from Utcuyacu, Junín, Peru, 1600-2200 m elev. March 1948 (F. Woytkowski), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace yellowish with a median gray line and gray on sides. Sternum, legs yellow, except that distal ends of tibiae are black. Dorsum of abdomen with a well defined median band that is narrow at anterior where it is enclosed by two black areas, widest at the middle, and narrow behind. A narrow white line crosses band in middle. Venter of abdomen with a black spot anterior to spinnerets and another on the genital area. Eyes subequal in size. Anterior median eyes three-quarters diameter apart, one-quarter from laterals. Posterior median eyes their radius apart, their diameter from laterals. Total length of female 3.0 mm. Carapace 1.3 mm long, 1.1 mm wide. Second patella and tibia, 1.5 mm; third, 1.1 mm; fourth, 1.5 mm. Total length of male 2.5 mm. Carapace 1.1 mm long, 1.0 mm wide. First femur, 2.2 mm; patella and tibia, 2.2 mm; metatarsus, 2.0 mm; tarsus, 0.7 mm. Second patella and tibia, 1.5 mm; third, 0.9 mm; fourth, 1.4 mm.

Diagnosis. The palpus, with its prominent median apophysis and heavy embolus (Fig. 47), separates this species from others of the *T. murarium* group. The internal connecting canals are sclerotized (Figs. 48, 49) and separate this species from others having two openings near the posterior margin of the epigynum (Fig. 49).

Records. ♀ paratype collected with holotype.

THERIDION FOLIACEUM Nicolet
Figures 44-46

Theridion foliaceum Nicolet, 1849, *in* Gay, Historia de Chile, 3: 538. Holotype from Chile, lost. Not *Theridion foliaceum* Hentz 1850 (=*Dictyna foliacea*).

Note. Nicolet's description of coloration matches this species. The placement, however, is not certain.

Description. Carapace yellowish with a dusky median band and a black line around margin. Sternum grayish. Legs yellow with narrow black rings around distal ends of tibiae and metatarsi. Abdomen with a median dorsal longitudinal white band having a wavy margin, being located in an area slightly darker, like other species of the *T. murarium* group. Sides and venter white. Abdomen of male darker than that of female. Eyes subequal in size. Anterior median eyes one and one-half diameters apart, one-third diameter from laterals. Posterior median eyes a little more than their diameter apart, one diameter from laterals. Epigynum a sclerotized plate, having a dark spot in each of a pair of shallow depressions (Fig. 46). The specimen from Paraguay has the internal portion of the sclerotized posterior rim longer, almost touching the ducts, and the seminal receptacles are slightly longer. The epigynum of the Paraguayan specimen has the posterior rim slightly narrow in the middle, and has a central sclerotized dark spot slightly anterior to openings. Total length of female 2.5 mm. Carapace 0.9 mm long, 0.8 mm wide. First femur, 1.3 mm; patella and tibia, 1.2 mm; metatarsus, 0.9 mm; tarsus, 0.5 mm. Second patella and tibia, 0.9 mm; third, 0.6 mm; fourth, 1.0 mm. Total length of male 2.4 mm. Carapace 1.04 mm long, 0.85 mm wide. First femur, 1.56 mm; patella and tibia, 1.75 mm; metatarsus, 1.36 mm; tarsus, 0.65 mm. Second patella and tibia, 1.14 mm; third, 0.69 mm; fourth, 1.07 mm.

Records. Argentina. Santa Cruz: Santa Cruz, ♀ ♂ (Silvestri, MNHN). *Chile. Linares:* Fundo Malcho, Cord. Parral, Dec. 1957, Feb., ♀ March 1958, ♂ (L. Peña, ISNB); Linares, Jan. 1947 (L. Peña, ISNB). *Bío-Bío:* 5 km W of Tucapel, 23 Dec. 1950 (E. S. Ross, A. E. Michelbacher, CAS); Laguna del Laja, 12-17 Jan. 1957 (L. Peña, ISNB). *Malleco:* Río Blanco, Caracautín, Feb. 1959 (L. Peña, ISNB). *Magallanes:* Laguna Amarga, Natales, Dec. 1960, ♀ (L. Peña).

THERIDION LINARESENSE sp. n.

Figures 50-51

Holotype. Female from Linares, Linares, Chile, Jan. 1947 (L. Peña) in the Institut Royal des Sciences Naturelles de Belgique in Brussels.

Description. Carapace rich yellow with gray marks on sides. Sternum yellow with indistinct gray sides. Legs yellow with darker yellow or gray rings at distal ends of segments. Dorsum of abdomen mottled white. Venter black anterior to pedicel, two black bands encircling a large white spot between genital groove and spinnerets. Spinnerets surrounded by a black ring with two short branches toward dorsum. Eyes subequal in size. Anterior median eyes one diameter apart, one-quarter diameter from laterals. Posterior eyes one diameter apart. Abdomen as wide as long, subtriangular. Total length 2.4 mm. Carapace 1.04 mm long, 0.56 mm wide. First femur, 0.92 mm; patella and tibia, 1.04 mm; metatarsus, 0.64 mm; tarsus, 0.32 mm. Second patella and tibia, 0.72 mm; third, 0.48 mm; fourth, 0.80 mm.

Diagnosis. This species is separated from *T. ambiguum* by the shape of the epigynum, a sclerotized plate containing two openings surrounded by black rims.

Record. 1 ♀ paratype collected with type.

THERIDION PENAI sp. n.

Figures 52-53

Holotype. Female from Maullín, Llanquihue, Chile, 16-21 Feb. 1957 (L. Peña) in the Institut Royal des Sciences Naturelles de Belgique, Brussels. The species is named after the collector.

Description. Carapace, sternum, legs yellow-white. Dorsum of abdomen with a longitudinal white pigment band having straight sides. On sides of abdomen are several small round irregularly placed back spots and also white pigment spots. Venter of abdomen without white pigment spots, but with a large black spot anterior to spinnerets and sometimes a black spot on each side near middle. Eyes noticeably small, anterior median eyes slightly smaller than others. Anterior median eyes two diameters apart, almost one diameter from laterals; posterior eyes one diameter apart. One tooth on anterior margin of chelicerae. Total length of female 3.0 mm. Carapace 1.0 mm long, 0.9 mm wide. First femur, 1.9 mm; patella and tibia, 1.8 mm; metatarsus, 1.4 mm; tarsus, 0.6 mm. Second patella and tibia, 1.2 mm; third, 0.8 mm; fourth, 1.4 mm.

Diagnosis. This species differs from *T. calcynatum* by having heavily sclerotized lips around the epigynal opening (Fig. 53) and by having shorter connecting ducts (Fig. 52).

Records. Chile. Concepción: Menque, Feb. 1959 (L. Peña, ISNB). *Arauco:* Caramávida, Jan. 1954 (L. Peña, ISNB). *Malleco:* Icalma, Dec. 1958 (L. Peña, ISNB); Río Blanco, Caracautín, Feb. 1959 (L. Peña, ISNB). *Cautín:* Dalcahue, 10-12 Feb. 1954, ♀ (L. Peña, ISNB). *Llanquihue:* Maullín, 16-21 Feb. 1957, 2 ♀ paratypes (L. Peña, ISNB).

THERIDION AMBIGUUM Nicolet
Figures 54-58

Theridion ambiguum Nicolet, 1849, *in* Gay, Historia de Chile, 3: 532. Type from Chile, lost.

Note. Nicolet's description of coloration matches this species.

Description. Carapace yellow with a dusky median line. Sternum yellow-white. Legs yellow-white with darker bands, as wide as intermediate areas. Abdomen with a dorsal, longitudinal white band, having an irregular margin located in a dark area. Sides white, some white pigment posterior to epigynum on venter. Anterior median eyes smaller than others, one and one-half diameters apart, two-thirds diameter from laterals. Posterior median eyes three-quarters diameter apart, one diameter from laterals. Epigynum (Figs. 56, 58) with a depression, transparent, showing ducts on both sides, except in those specimens in which there is pigment present. Total length of female 2.2 mm. Carapace 1.04 mm long, 0.83 mm wide. First femur, 1.96 mm; patella and tibia, 2.06 mm; metatarsus, 1.46 mm.; tarsus, 0.65 mm. Second patella and tibia, 1.10 mm; third, 0.80 mm; fourth, 1.22 mm. Total length of male 2.0 mm. Carapace 0.93 mm long, 0.78 mm wide. Third patella and tibia, 0.70 mm; fourth, 1.04 mm.

Variation. The ducts and seminal receptacles of the female genitalia are variable. The seminal receptacles may be oval or spherical; the ducts may be coiled differently and the length of the flare at the external openings may differ. The ducts usually are black, but the black pigment may extend only a short distance from the seminal receptacles or may extend the whole length.

Records. Chile. Valparaíso: Cordillera Dept. Casablanca, 700-900 m, ♀ (MNHN). *O'Higgins:* Las Cabras, 1400 m (L. Peña, ISNB). *Linares:* Fundo Malcho Cord. Parral, ♀ (L. Peña, ISNB); Linares (L. Peña, ISNB); Las Cruces, Parral (L. Peña, ISNB). *Nuble:* Sierra Chillán (Germain, MNHN); Cobquecura (L. Peña, ISNB). *Arauco:* Pichinahuel, Cord. Nahuelbuta (L. Peña, ISNB). *Malleco:* Icalma (L. Peña, ISNB); Río Blanco, Curacautín (L. Peña, ISNB). *Cautín:* Dalcahue (L. Peña, ISNB). *Valdivia:* 30 km S of Valdivia (E. S. Ross, A. E. Michelbacher, CAS). *Llanquihue:* Los Muermos (E. S. Ross, A. E. Michelbacher, CAS); Carelmapu (L. Peña, ISNB). *Magallanes:* Bahía Inutil, ♂ (L. Peña); Camerón, ♀, ♂ (L. Peña).

THERIDION NIGROANNULATUM Keyserling

Figures 59-63

Theridium nigroannulatum Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 74, pl. 4, fig. 45, ♀, ♂. Female lectotype here designated from Amable María, [640 m elev., Junín, prov. Tarma], Peru, in the Polish Academy of Sciences, Warsaw, examined.

Note on nomenclature. In Keyserling's key, page 5 and in the explanation of the illustrations the name *nigromaculatum* is used. However, Keyserling (1886, *op. cit.*, 2(2): 296) indicates that this was a misprint and that the name *nigroannulatum* should be used. Thus Bonnet (1959, Bibliographia Araneorum, 2: 4494) is in error in using the name *nigromaculatum* for this species.

Figures 61-63 were made from syntype specimens.

Diagnosis. The striking coloration, brownish with black patches (Fig. 63) and legs with black rings as wide as light rings, facilitates recognition of this species.

Natural history. Since all collections consisted of many individuals, it is suspected that this species is colonial or that wherever found the population is dense.

Records. Peru. San Martín: Mishqui-yacu, 20 km NE of Moyobamba (R. Woytkowski). *Huánuco:* Cucharas Valley (F. Woytkowski); Tingo María (J. C. Pallister, AMNH); Monzón Valley, Tingo María (E. S. Ross, E. I. Schlinger, CAS); 24 km NE of Tingo María — "all from one colony."

THERIDION RURRENABAQUE sp. n.

Figures 64-65

Holotype. Male from Rurrenabaque, Bení, Bolivia, Oct., Nov. 1958 (L. Peña) in the Institut Royal des Sciences Naturelles de Belgique, Brussels. The specific name is a noun in apposition after the type locality.

Description. Carapace, sternum, legs orange-yellow with ends of femora and tibiae grayish. Abdomen dull orange-yellow with a black spot above spinnerets. Anterior median eyes slightly smaller than others, one and one-quarter diameters apart, one diameter from laterals. Posterior eyes their diameter apart. Chelicerae with two teeth on the anterior margin. Total length of male 2.5 mm. Carapace 1.3 mm long, 1.1 mm wide. First femur, 3.3 mm; patella and tibia, 3.4 mm; metatarsus, 3.2 mm; tarsus, 1.0 mm. Second patella and tibia, 1.9 mm; third, 1.0 mm; fourth 1.8 mm.

Diagnosis. This species is very similar to *T. chacoense* but differs in having a slightly shorter median apophysis, a more prominent embolus, a larger tegulum, and shorter conductor (Figs. 64, 65). It lacks the notch in the subtegulum present in *T. nigroannulatum.*

THERIDION LONGIPEDATUM Roewer

Figures 66-67

Theridium longipes Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 66, pl. 3, fig. 40, ♀. Female holotype from Santa Fe de Bogota [Bogota], Colombia, in the British Museum, examined. Name preoccupied by *T. longipes* Hasselt, 1882.

Theridion longipedatum Roewer, 1942, Katalog der Araneae, 1: 494. New name for *T. longipes* Keyserling, preoccupied.

Although this species has an epigynum resembling *Achaearanea taeniata* (Keyserling), it is light colored, has long legs, and belongs to the *T. frondeum* group. Figures 66-67 were prepared from the holotype.

THERIDION ARAGUA sp. n.

Figures 68-71

Holotype. Male from Tovar, Aragua, Venezuela, January to February 1888 (E. Simon), in the Muséum National d'Histoire Naturelle, Paris (no. 11640). The specific name is a noun in apposition after the Venezuelan state.

Description. Color very variable. Carapace yellowish, sometimes with a median longitudinal band as wide as eye region in front, pointed behind. Sternum yellow. Legs yellow, sometimes with dark spots on underside. Abdomen variable, sometimes with a median longitudinal dorsal white line or dark band, always with many white and black patches; venter yellowish, sometimes gray. Eyes of male subequal in size. Anterior median eyes three-quarters diameter apart, almost touching laterals. Posterior median eyes three-quarters diameter apart, one diameter from laterals. Anterior median eyes of female slightly smaller than others, their diameter apart, one-quarter diameter from laterals. Posterior median eyes two-thirds diameter apart, three-quarters diameter from laterals. Chelicerae with one large tooth and a small one between it and base of fang. Abdomen subspherical. Total length of female 2.2 mm. Carapace 0.8 mm long, 0.8 mm wide. First femur, 1.1 mm; patella and tibia, 1.1 mm; metatarsus, 0.9 mm; tarsus, 0.5 mm. Second patella and tibia, 0.8 mm; third, 0.6 mm; fourth 1.0 mm. Total length of male 1.9 mm. Carapace 0.9 mm long, 0.9 mm wide. First femur, 1.4 mm; patella and tibia, 1.8 mm; metatarsus, 1.3 mm; tarsus, 0.6 mm. Second patella and tibia, 1.2 mm; third, 0.7 mm; fourth, 0.9 mm.

Diagnosis. The male can be separated from other species of the *T. frondeum* group by the tegulum shape and the U-shaped embolus (Fig. 71). The epigynum has two openings side by side, each in a black spot; the black spots are on a raised area which is projecting from the abdomen (Fig. 69).

Records. ♀, ♂ paratypes collected with holotype.

THERIDION GRANDIOSUM sp. n.

Figures 72-75

Holotype. Male from 48 km east of Carhuamayo, Junín, Peru, 30 Dec. 1954 (E. I. Schlinger, E. S. Ross), in the California Academy of Sciences. The specific name is an arbitrary combination of letters.

Description. Carapace yellow-brown, reddish in head region. Sternum yellow-brown with a red-brown line around margin. Legs yellow-brown with red-brown bands as wide as intermediate areas. Abdomen gray-brown with three connected brown spots on middle of dorsum and three to five large brown spots on each side with some small white pigment spots in between and also some smaller brown spots, but quite variable in different specimens. Genital region brown, a white area posterior, and a brown area anterior to spinnerets. In larger females the pattern becomes indistinct and the spots may run into each other. Anterior median eyes slightly larger than others, their diameter apart in male, and one-quarter diameter from laterals. Posterior median eyes one diameter apart, one and one-half diameters from laterals. Eyes of female not quite as large and farther apart. Chelicerae with one broad tooth on promargin in male, two in female. Total length of female 8.0 mm. Carapace 2.9 mm long, 2.4 mm wide. First femur, 4.9 mm; patella and tibia, 5.6 mm; metatarsus, 4.1 mm; tarsus, 1.6 mm. Second patella and tibia, 3.9 mm; third, 2.6 mm; fourth, 4.0 mm. Total length of male 5.5 mm. Carapace 2.5 mm long, 2.4 mm wide. First femur, 4.5 mm; patella and tibia, 5.5 mm; metatarsus, 4.0 mm; tarsus, 1.9 mm. Second patella and tibia, 3.7 mm; third, 2.3 mm; fourth, 3.4 mm.

Diagnosis. The very large size and the distinct genitalia separate this species from *T. morulum* O. P.-Cambridge. Unlike other species of the *T. frondeum* group, the epigynum has a large protuberance bending anteriorly. The embolus is very large and has moved ventrally pushing the tegulum to the side; it is supported by the conductor (Fig. 75).

Record. Peru. Junín: Carhuamayo, 4 ♂ and 5 ♀ paratypes collected with type. *Huánuco:* Carpish Mts., 62 km NE of Huánuco, 28 Dec. 1954, ♀ (E. I. Schlinger, E. S. Ross, CAS).

THERIDION TRIGUTTATUM Keyserling

Figures 76-77

Theridium triguttatum Keyserling, 1891, Die Spinnen Amerikas, Brasilianische Spinnen, 3: 190, pl. 6, fig. 136, ♀. Female syntypes from Neu Freiburg [Nova Friburgo, Est. Rio de Jan.] and Espírito Santo on the Rio Minas, Brazil, in the British Museum, examined.

This species is orange in coloration. Figures 76, 77 were prepared from a syntype.

Records. Brazil. Guanabara: Sumaré, Rio de Janeiro, Feb. 1946 (H. Sick, AMNH). *Est. Rio de Janeiro:* Teresópolis, March 1946 (H. Sick, AMNH). *São Paulo:* Ribeirão Pires, Dec. 1945 (H. Sick, AMNH).

THERIDION UBER Keyserling
Figures 78-79

Theridium uber Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 51, pl. 2, fig. 29, ♀. Female holotype from Prov. Amazonas, Brazil, in the Hope Department of Entomology, Oxford University, examined.

The abdomen of this species is wider than long. Figures 78, 79 were prepared from the holotype.

THERIDION RUFIPUNCTUM Levi
Figures 80-81

Theridion rufipunctum Levi, 1959, Bull. Mus. Comp. Zool., 121: 118, figs. 230-233, ♀ ♂. Male holotype from Panama, in the Museum of Comparative Zoology.

Note. The specimen collected in Ecuador has the posterior rim of the epigynum more sclerotized (Fig. 81) than in Panamanian specimens. The abdomen of this species is wider than long; the patellae have black spots on their anterior face.

Records. Ecuador. Tungurahua: Mt. Tungurahua, 1900-2000 m, 10 April 1939, ♀ (W. C. Macintyre).

THERIDION SEXMACULATUM Keyserling
Map 3

Theridium sexmaculatum Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 82, pl. 4, fig. 51, ♀. Female syntypes from Amazonas, Brazil, in the Hope Department of Entomology, Oxford University, examined. —Levi, 1959, Bull. Mus. Comp. Zool., 121: 119, figs. 236-239, ♀, ♂.

Distribution. West Indies, Guatemala, Panama, Venezuela, Ecuador, Lower Amazon Valley (Map 3).

Additional records. Haiti: La Boule, Nov. 1959, ♀, ♂ (A. M. Nadler, AMNH). *Venezuela. Aragua:* Rancho Grande (A. M. Nadler, AMNH). *Ecuador. Guayas:* Milagro (H. E., D. L. Frizzell).

THERIDION COCOSENSE Strand
Figures 82-83

Theridium sp. Banks, 1905, Proc. Ent. Soc. Washington, 7:21, from the Coco Isl. The specimens referred to have not been found.

Theridion cocosense Strand, 1906, Zool. Zentralbl., 13: 783. Name for *Theridium* sp. Banks.

Note. Giving the specimen on hand Strand's name may be arbitrary, but it came from the type locality. Banks' total description reads: "A few specimens of a small species, with a short yellow abdomen and a black cephalothorax. Quite possibly it is new." It was probably an immature spider later discarded.

Description. Whitish without any pigment except in eyes. Anterior median eyes slightly smaller than others, one diameter apart, less than one diameter from laterals. Posterior median eyes one diameter apart, less than one diameter from laterals. Chelicerae with one tooth on anterior margin. Abdomen suboval, twice as long as wide. Total length 3.0 mm. Carapace 1.1 mm long, 1.0 mm wide. First femur, 3.5 mm; patella and tibia, 3.5 mm; metatarsus, 4.0 mm; tarsus, 0.9 mm. Second patella and tibia, 2.0 mm; third, 1.2 mm; fourth 2.3 mm.

Diagnosis. Epigynum is weakly sclerotized and indistinct (Fig. 83). Internal genitalia also very weakly sclerotized. The ducts loop (Fig. 82) as in other species of the *T. frondeum* group. It differs from others by the greater extent of the loop, and by the shape of the lips around the opening (Fig. 83).

Records. Costa Rica: Isla del Coco, lat 5°32′N, long 87°40′W, 1 ♀ (AMNH).

THERIDION ONTICOLUM sp. n.

Figures 84-85

Holotype. Female from the small mountain Cerro Negro, Piura, Peru, 15 June 1941 (H. E. and D. L. Frizzell) in the Museum of Comparative Zoology. The specific name is an arbitrary combination of letters.

Description. Carapace brownish; sternum yellow, dusky around margin; legs yellow. Abdomen with some large white pigment spots on dorsum and two rows of three to four large black spots. Shape of abdomen oval, longer than wide or high. Anterior median eyes considerably smaller than others. Anterior median eyes one and one-half diameters apart, two-thirds diameter from laterals. Posterior eyes three-quarters diameter apart. Total length 1.9 mm. Carapace 0.78 mm long, 0.78 mm wide. First femur, 1.19 mm; patella and tibia, 1.19 mm; metatarsus, 0.98 mm; tarsus, 0.48 mm. Second patella and tibia, 0.89 mm; third, 0.68 mm; fourth, 1.04 mm.

Diagnosis. The epigynum, which has a small depression with a very thick lip all around close to the border (Fig. 85), and the internal genitalia (Fig. 84), separate this species from others. It is not known to which species group *T. onticolum* belongs.

THERIDION AMATITLAN sp. n.
Figures 88-89

Holotype. Female from Amatitlán, Guatemala, 24 Aug. 1947 (C. and P. Vaurie), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace dark brown, sternum brown, legs brown. Abdomen dark gray without pattern. Eyes subequal in size. Anterior median eyes one diameter apart, their radius from laterals. Posterior median eyes their diameter apart, a little more than their diameter from laterals. Total length 3.6 mm. Carapace 1.17 mm long, 0.99 mm wide. First femur, 1.32 mm; patella and tibia, 1.36 mm; metatarsus, 1.05 mm; tarsus, 0.60 mm. Second patella and tibia, 1.23 mm; third, 1.01 mm; fourth, 1.23 mm.

Diagnosis. It is uncertain to which species group this species belongs. No species is close to it. Epigynum a small, dark sclerotized spot at the posterior edge of a larger, lighter sclerotized area. Area posterior to spot light in color, sides with gray pigment (Fig. 89).

THERIDION PELAEZI sp. n.
Figures 90-91

Holotype. Female from Río Frío, Puebla, 3000 m elev., Mexico, 26 April 1942 (C. Bolivar, B. Osorio, D. Pelaez), in the American Museum of Natural History.

Description. Carapace yellow-white with a narrow black line around margin, a gray median band as wide as posterior median eyes in front, narrow behind. Sternum, legs yellow-white with a dark distal area on tibiae and metatarsi. Abdomen yellow-white with small white pigment spots on dorsum more dense in a median line, and pair of black spots above spinnerets. Eyes subequal in size. Anterior median eyes one diameter apart, their radius from laterals. Posterior median eyes one diameter apart, one and one-quarter diameters from laterals. Chelicerae with two teeth on anterior margin. Total length 4.0 mm. Carapace 1.5 mm long, 1.3 mm wide. Second patella and tibia, 1.8 mm; fourth 2.0 mm.

Diagnosis. The epigynum has a depression anterior to a sclerotized fold (Figs. 90-91) quite similar to *T. frio*. *Theridion frio* differs by having two ventral black spots on the abdomen, by having the ducts visible in the posterior portion of the epigynum, having the anterior sclerotized edge curved, and having the seminal receptacles almost twice as long as wide (Levi, 1959, figs. 199, 200). The openings of the epigynum in *T. frio* are on each end on the raised portion of the epigynum.

Theridion ecuadorense sp. n.

Figures 92-93

Holotype. Female from a copper mining camp inland from Palenque River, Los Rios, Ecuador, March 1943 (H. E. Frizzell), in the Museum of Comparative Zoology. The species is named after the country of the type locality.

Description. Carapace dark olive-brown. Sternum brown, anterior yellowish. Legs dark yellow with brown patches. Abdomen covered by small white pigment spots and several large black streaks going down sides and behind towards spinnerets. A white inverted T behind genital groove on black background on venter. Anterior median eyes slightly larger than others, two-thirds their diameter apart, their radius from laterals. Posterior eyes one diameter apart. Chelicerae with two teeth on anterior margin. Total length 5.4 mm. Carapace 1.6 mm long, 1.5 mm wide. First femur, 3.2 mm; patella and tibia, 3.3 mm; metatarsus, 2.7 mm; tarsus, 1.1 mm. Second patella and tibia, 2.3 mm; third, 1.5 mm; fourth, 2.5 mm.

Diagnosis. The epigynum has a heavily sclerotized transverse depression (Fig. 93). The looping ducts as well as the wide depression of the epigynum separate this large species from others. It is possible that the species belongs in the genus *Achaearanea*.

Theridion oswaldocruzi sp. n.

Figures 94-95

Holotype. Female from Instituo Oswaldo Cruz, Cidade Rio de Janeiro, Guanabara, Brazil, 23 Jan. 1959 (A. M. Nadler), in the American Museum of Natural History. The species is named after Oswaldo Cruz.

Description. Carapace, sternum, legs yellowish. Abdomen, yellowish white with two thin white, longitudinal lines on dorsum, separated by more than twice their width and meeting above spinnerets. Also, many small white spots on dorsum. No marks on venter. Anterior median eyes slightly smaller than others, a little more than their diameter apart, touching laterals. Posterior median eyes two-thirds diameter apart, their radius from laterals. Total length 1.5 mm. Carapace 0.57 mm long, 0.55 mm wide. First femur, 1.26 mm; patella and tibia, 1.31 mm; metatarsus, 1.03 mm; tarsus, 0.45 mm. Second patella and tibia, 0.85 mm; third, 0.53; fourth, 0.87 mm.

Diagnosis. The epigynum, which has a sclerotized over-hanging lip near the posterior margin, and whose openings are near the center anterior to the lip (Fig. 95), distinguish this species readily from other *Theridion*. The connecting ducts are relatively long (Fig. 94).

THERIDION AEOLIUM sp. n.

Figures 96-97

Holotype. Female from 1.1 road miles above Windy Point, 2000 m elev., Santa Catalina Mountains, Pima County, Arizona, under rock, 22 Oct. 1959 (J. A. Beatty), in the Museum of Comparative Zoology. The specific name is an adjective meaning windy.

Description. Carapace light olive-brown with gray pigment unevenly distributed, reddish near eyes. Sternum dark gray with sides black. Legs whitish with narrow black bands, broken on dorsum. Dorsum of abdomen with white pigment; anterior a black mark above carapace, two dark marks on each side above spinnerets, and two faint parallel gray longitudinal marks. Sides with some gray pigment. Venter with a white pigment spot behind epigynum. Anterior median eyes slightly larger than others, two-thirds diameter apart, almost touching laterals. Posterior median eyes two-third diameter apart, three-quarters diameter from laterals. Total length 1.4 mm. Carapace 0.60 mm long, 0.60 mm wide. First femur, 0.96 mm; patella and tibia, 1.02 mm; metatarsus, 0.72 mm; tarsus, 0.41 mm. Second patella and tibia, 0.71 mm; third, 0.50 mm; fourth, 0.75 mm.

Diagnosis. The epigynum has a median longitudinal depression containing a dark longitudinal mark (Fig. 97); on each side of the depression is a swollen area bearing about eight to ten setae (setae not shown in Fig. 97). *Theridion aeolium* seems close to *T. timpanogos* Levi but differs by the lateral swellings on the epigynum.

THERIDION COLIMA Levi

Theridion colima Levi, 1959, Bull. Mus. Comp. Zool., 121(3): 136, figs. 277-279, ♀. Female type from Colima, Mexico, in the American Museum of Natural History.

Records. Ecuador. Tungurahua: Baños, 2200 m, 29 Apr. 1939 (W. C. Macintyre), doubtful determination.

THERIDION EREMUM sp. n.

Figures 98-99

Holotype. Female from Nova Teutonia, lat 27°11′S, long 52°23′W, Santa Catarina, Brazil (F. Plaumann), in the Senckenberg Museum (no. RII/13471/1). The specific name is an arbitrary combination of letters.

Description. Carapace yellow. Sternum grayish yellow. Legs yellow. Dorsum of abdomen with two large dark black areas anterior and two large black areas posterior; a colorless cross in a central area of fine white pigment spots; venter without pigment. Anterior median eyes slightly larger than others, one diameter apart, their radius from laterals. Posterior median eyes one-third diameter apart, almost one diameter from laterals. Total length 1.7 mm. Carapace 0.78 mm long, 0.70 mm wide. First femur, 0.84 mm; patella and tibia, 0.70 mm; metatarsus, 0.43 mm; tarsus, 0.39 mm.

Diagnosis. The very distinct epigynum (Fig. 99) has two lateral dark areas, the shadows of the connecting ducts, which readily separate this species from other *Theridion.*

THERIDION CALCYNATUM Holmberg

Figures 100-107; Map 3

Theridion calcynatum Holmberg, 1876, An. Agr. Rep. Argentina, 4: 72. Types from Argentina lost. However, some female specimens sent by Holmberg to Keyserling and belonging to the British Museum were examined.

Theridium calycinatum, — Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 72, fig. 44, ♀, ♂. Bonnet, 1959, Bibliographia Araneorum, 2: 4499.

Theridium limaense Keyserling, 1884, *op. cit.* 2(1): 76, pl. 4, fig. 46, ♀, ♂. Male lectotype here designated from Lima, Peru, in the Polish Academy of Science, Warsaw, examined. NEW SYNONYMY.

Notes. Keyserling (1884) misspelled the name of the species and referred to the wrong Holmberg page number. Both errors have been repeated by Petrunkevitch and in all the subsequent literature. The original publication is extremely rare and no copies are in this country, and none, presumably, in Europe. A microfilm of Holmberg's publication has been obtained through the courtesy of Dr. Gravenstein, librarian in Buenos Aires.

Despite being called *limaense*, Keyserling does not refer to Lima as type locality. This I believe is an omission since specimens from the type collection came from Lima. Figures 102-103, 106-107 were made from the syntypes from Peru.

Description. Female carapace yellow-white often with a median black band. Sternum sometimes black, sometimes colorless. Legs yellow-white, sometimes with black spots. Abdomen yellow-white, dorsum usually white with some black marks, but no two specimens have the black marks in the same area. Anterior median eyes slightly smaller than others, one and one-half diameters apart, one diameter from laterals. Posterior median eyes one diameter apart, one and one-quarter diameter from laterals. Chelicerae with two teeth on anterior margin. Total length of female from Argentina 5.0 mm. Carapace 2.0 mm long, 1.4 mm wide. First femur, 4.8 mm; patella and tibia, 5.2 mm; metatarsus, 5.2 mm; tarsus, 1.4 mm. Second patella and tibia, 3.0 mm; third, 2.5 mm; fourth, 3.2 mm. Total length of male from Argentina, 4.7 mm. Carapace 2.3 mm long, 1.5 mm wide. First femur, 5.5 mm; patella and tibia 6.2 mm; metatarsus, 6.9 mm; tarsus, 1.5 mm. Second patella and tibia, 3.2 mm; third, 1.9 mm; fourth, 3.2 mm.

Figures 104, 105 were made from specimens sent to Keyserling by Holmberg. Figures 100-101 were made from a male from Argentina.

The color of this species is very variable. The venter may have a pair of black spots. Brazilian specimens often have a lip on the posterior margin of the epigynum depression.

Natural history. This species has been collected "in webs underneath leaves in shrubs" by W. Weyrauch at Divisoria Cordillera, Peru, 1600 m elev.

Distribution. South America from Venezuela to Argentina, outside of Chile (Map 3).

Records. Venezuela. Dist. Fed.: Caracas, 1887-1888 (E. Simon, MNHN). *Mérida:* Mucutuy, 1600 m, ♂ (J. T. H., BMNH). *Ecuador. Tungurahua:* Baños (E. I. Schlinger, E. S. Ross, CAS). *Chimborazo:* 48 km SW of Alausi (E. I. Schlinger, E. S. Ross, CAS). *Peru. Piura:* Las Lomas Higueron (H. E., D. L. Frizzell); Pariñas Vall. (H. E., D. L. Frizzell); Quebrada Mogollón (H. E., D. L. Frizzell). *San Martín:* Mishqui-yacu, 20 km NE of Moyobamba (F. Woytkowski). *Libertad:* Hacienda Cartavio, near Trujillo (W. Weyrauch, AMNH). *Huánuco:* Tingo María (W. Weyrauch, AMNH). *Ancash:* Recuay (Huarez); Valle Santa, 3400 m (W. K. W.). *Junín:* Utcuyacu, 1600-2000 m (F. Woytkowski); Huacapistana, Río Tarma, 1800 m (W. Weyrauch, AMNH). *Lima:* Lima, paratypes; (W. Weyrauch, AMNH). *Cuzco:* Machu Picchu, Pueblo Cuzco (J. C. Pallister, AMNH); Quillabamba, Valle Urubamba (W. Weyrauch, AMNH). *Brazil. Minas Gerais:* Minha Serinha, Diamantina (E. Cohn, AMNH); Ouro Prêto (N. L. H. Krauss, AMNH); near Patrocínio (G. Andrews); Bello Horizonte (Cornell Univ. Exped.). *Est. Rio de Janeiro:* Teresópolis (E. Göldi, MNHN; H. Sick, AMNH); Petrópolis, 850 m (H. Sick, AMNH). *Guanabara:* Sumaré, Rio de Janeiro, 200-300 m (H. Sick, AMNH). *Est. São Paulo:* São Paulo (A. M. Nadler; N. L. H. Krauss, AMNH). *Paraná:* Rolândia (A. Maller, AMNH). *Santa Catarina:* Nova Teutonia, lat 27°11′S, long 52°23′W (F. Plaumann, SMF). *Rio Grande do Sul:* Pelotas (C. Biezanko, AMNH). *Bolivia.* Chaco, 2000 m (MNHN). *La Paz:* Chulumani, 1700 m (L. Peña, ISNB); Villa Yungas (L. Peña, ISNB). *Argentina. Buenos Aires:* Punta Lara, ♀ ♂ (M. Birabén).

THERIDION FRIZZELLORUM sp. n.

Figures 109-116

Holotype. Male from Baños, Tungurahua Prov., Ecuador, 15-21 June 1943 (H. E. and D. L. Frizzell), in the Museum of Comparative Zoology. The species is named after the collectors.

Description. Carapace, sternum yellow-white. Legs yellow-white with some dusky marks on middle and ends of segments. Abdomen with dorsum white, but often having black patches; otherwise yellow-white. Eyes subequal in size. Anterior median eyes one and one-half diameters apart, one diameter from laterals. Posterior median eyes their diameter apart, one and one-half diameters from laterals. Male with chelicerae slightly enlarged and having a boss at their proximal end. Chelicerae of female without boss, and with two teeth on anterior margin. Total length of female 4.7 mm. Carapace 1.6 mm long, 1.2 mm wide. First femur, 3.3 mm; patella and tibia, 3.2 mm; metatarsus, 3.1 mm; tarsus, 0.8 mm. Second patella and tibia, 2.2 mm; third, 1.3 mm; fourth, 2.4 mm. Total length of male 3.6 mm. Carapace 1.7 mm long, 1.3 mm wide. First femur, 4.3 mm; patella and tibia, 4.2 mm; metatarsus, 4.4 mm; tarsus, 1.1 mm. Second patella and tibia, 2.4 mm; third, 1.4 mm; fourth, 2.5 mm.

Variation. The ducts visible through the tegulum of the male palpus and the shape of the median apophysis are slightly different in each male examined. Some specimens collected together lack the lower lobe of the median apophysis; in others it is longer than in Figure 111. The shape of the depression of the epigynum is also somewhat variable.

Diagnosis. The epigynum (Figs. 114, 116) has a subtriangular depression with two darker areas and is quite indistinct. The internal female genitalia (Figs. 113, 115) are sclerotized, the seminal receptacles are large and of a different shape, the connecting ducts differ in their course from those of *T. calcynatum.* The shape of the embolus, the median apophysis of the palpus and the ducts in the tegulum (Figs. 109, 110) separate this species from *T. calcynatum.* However, the median apophysis (Fig. 109) is variable in shape.

Records. Venezuela. Mérida: Mérida, ♀ (SMF). *Colombia. Antioquia:* Medellín, 1700-2000 m (P. B. Schneble). *Cundin Amarca:* Bogotá, ♀ ♂ (BMNH). *Ecuador. Tungurahua:* Baños, 7 May 1942; 15-21 June 1943, ♀ ♂ paratypes (H. E., D. L. Frizzell); Puñapí, 19 June 1943 (H. E., D. L. Frizzell); Pastaza Vall., between Baños and Mero, 1949, ♀ (W. C. Macintyre); Mt. Tungurahua, 1900-2000 m, 10 Apr. 1939 (W. C. Macintyre).

Theridion botanicum sp. n.

Figures 117-120

Holotype. Male from Botanical Gardens, Caracas, Venezuela, 15 Dec. 1954 (A. M. Nadler), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace yellow-white with a narrow black median line. Sternum, legs yellow-white. Abdomen yellow-white with a white median dorsal band, whose edges are scalloped. A black mark on venter above and anterior to pedicel and a pair of black spots above spinnerets. The female has some white patches on sides of abdomen. Anterior median eyes slightly smaller than others, one and one-half diameters apart, two-thirds diameter from laterals. Posterior eyes slightly more than their diameter apart. Total length of female 2.3 mm. Carapace 0.50 mm long, 0.37 mm wide. First femur, 1.00 mm; patella and tibia, 1.04 mm; metatarsus, 0.90 mm; tarsus, 0.33 mm. Second patella and tibia, 0.57 mm; third, 0.39 mm; fourth, 0.72 mm. Total length of male 2.0 mm. Carapace 0.49 mm long, 0.38 mm wide. First femur, 1.05 mm; patella and tibia, 1.18 mm; metatarsus, 1.03 mm; tarsus, 0.37 mm. Second patella and tibia, 0.47

mm; third, 0.33 mm; fourth, 0.65 mm.

Diagnosis. This species, belonging to the *T. frondeum* group, is difficult to separate from others. The epigynum has a central, dark spot, having within the spot two darker marks (Fig. 118), and on each side of the epigynum is a gray mark; the connecting ducts (Fig. 117) are longer than those of *T. frizzellorum.* The palpus may be separated from those of other species by the ducts in the tegulum, by the shape of the embolus (Fig. 120) and by the proximal prong of the median apophysis which has a nick at its tip (Fig. 119).

Record. Venezuela. Dist. Fed.: Caracas, ♀ paratype collected with holotype; 1887-1888, ♀ (E. Simon, MNHN).

THERIDION GRECIA Levi

Map 3

Theridion grecia Levi, 1959, Bull. Mus. Comp. Zool., 121(3): 105, figs. 185-186, ♀. Female type from Costa Rica in the American Museum of Natural History.

Distribution. Mexico to Venezuela (Map 3).

THERIDION EVEXUM Keyserling

Map 2

Theridium evexum Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 65, pl. 3, fig. 39, ♀. Female type from N. Granada [Ecuador, Colombia, Venezuela, and Panama] in the British Museum, examined. — Levi, 1959, Bull. Mus. Comp. Zool., 121: 97, figs. 124-135, map 5.

Distribution. Southern Mexico, Central America, West Indies, Colombia, Venezuela and southern Brazil (Map 2).

Additional records. Venezuela. Aragua: Tovar, 1888 (E. Simon, MNHN). *Colombia. Cauca:* 24 km S of Corinto, March 1955 (E. I. Schlinger, E. S. Ross, CAS).

THERIDION HUANUCO sp. n.

Figure 108

Holotype. Male from Tingo María, Huánuco, Peru, 20 Jan. 1947 (J. C. Pallister), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace, legs yellow-white. Sternum with a black spot on posterior portion. Abdomen with a median white band, having scalloped margins. Eyes small, subequal in size.

Anterior median eyes one and one-half diameters apart, one diameter from laterals. Posterior median eyes one diameter apart, one and one-quarter diameters from laterals. Total length 2.2 mm. Carapace 1.1 mm long, 0.8 mm wide. First femur, 3.0 mm; patella and tibia, 2.9 mm; metatarsus, 2.9 mm; tarsus, 0.8 mm. Second patella and tibia, 1.7 mm; third, 0.9 mm; fourth, 1.4 mm.

Diagnosis. The huge prong of the median apophysis of the palpus (Fig. 108) separates this species from other species of the *T. frondeum* group.

THERIDION CHACOENSE sp. n.

Figures 121-122

Holotype. Male from Chaco, 2000 m elev., Bolivia, in the Muséum National d'Histoire Naturelle, Paris (no. 18023). The species is named after the type locality.

Description. Carapace, sternum, legs yellow-brown. Abdomen (which is slightly damaged in the only specimen) gray with some scarce white and black pigment on the sides. Eyes subequal in size. Anterior median eyes one and one-quarter diameters apart, one diameter from laterals. Posterior median eyes one diameter apart, one and three-quarters from laterals. Two teeth on anterior margin of chelicerae. Legs appearing quite hairy. Total length 3.0 mm. Carapace 1.3 mm long, 1.0 mm wide. First femur, 3.2 mm; patella and tibia, 3.1 mm; metatarsus, 3.2 mm; tarsus, 1.0 mm. Second patella and tibia, 1.8 mm; third, 1.1 mm; fourth, 1.8 mm.

Diagnosis. The shape of the palpal bulb, the very large conductor (Fig. 122) and the embolus which is not visible in ventral view separate this species from the similar *T. rurrenabaque,* also found in Bolivia.

THERIDION COCHISE sp. n.

Figures 123-124

Holotype. Male from Southwestern Research Station, 5 mi. west of Portal, Cochise County, Arizona, July 1955 (J. W. Gertsch), in the American Museum of Natural History. The specific name is a noun in apposition after the county of the type locality.

Description. Carapace, sternum, legs yellow. Abdomen white with two rows of gray marks on dorsum. Eyes subequal in size.

Anterior eyes one diameter apart. Posterior median eyes one diameter apart, one and one-half diameters from laterals. Total length 3.5 mm. Carapace 1.5 mm long, 1.4 mm wide. First femur, 3.4 mm; patella and tibia, 4.1 mm; metatarsus, 3.2 mm; tarsus, 1.2 mm. Second patella and tibia, 2.6 mm; third, 1.9 mm; fourth, 2.4 mm.

Diagnosis. This species is very similar to *T. morulum* O. P.-Cambridge; however, the shape of the embolus and median apophysis (Fig. 124) differs. The female is not known.

Record. ♂ paratype from type locality, 5-15 Aug. 1955 (W. J. Gertsch, AMNH).

THERIDION TEBANUM sp. n.

Figures 125-126

Holotype. Male from San Esteban, Carabobo, Venezuela, March 1888 (E. Simon), in the Muséum National d'Histoire Naturelle, Paris (no. 11700). The specific name is an arbitrary combination of letters.

Description. Carapace, sternum, legs yellow-white. Abdomen whitish with a pair of circular black spots on posterior of dorsum. Anterior median eyes slightly smaller than others, their diameter apart, three-quarters their diameter from laterals. Posterior median eyes their diameter apart, three-quarters diameter from laterals. Chelicerae without boss below clypeus and with two teeth on the anterior margin. Abdomen relatively long. Total length 3.0 mm. Carapace 1.0 mm long, 0.9 mm wide. First femur, 2.9 mm; patella and tibia, 2.9 mm; metatarsus, 2.8 mm; tarsus, 0.9 mm. Second patella and tibia, 1.6 mm; third, 0.7 mm; fourth, 1.4 mm.

Diagnosis. The ducts and shape of tegulum and median apophysis (Figs. 125-126) separate this species from others of the *T. frondeum* group.

THERIDION RAVUM sp. n.

Figures 127-130

Holotype. Male from Tovar, Aragua, Venezuela, Jan. to Feb. 1888 (E. Simon), in the Muséum National d'Histoire Naturelle, Paris (no. 11634). The specific name is an arbitrary combination of letters.

Description. Carapace of male yellow with two parallel lines;

female with a black band having parallel sides. Sternum yellow. Legs yellow, female with black spots on venter of legs. Abdomen of male with median dorsal longitudinal white band, white spots on sides, and several black spots on side of band. Female similar but darker, having more black. Genital area of both sexes black. Female has a black spot between genital area and spinnerets. Eyes subequal in size. Anterior median eyes separated by one and one-half their diameters, one diameter from laterals. Posterior median eyes their diameter apart, one and one-half diameters from laterals, in male; one diameter in female. Chelicerae of male with a boss below clypeus. Male with one tooth on anterior margin, female with two. Total length of female 2.9 mm. Carapace 1.3 mm long, 1.1 mm wide. First femur, 2.0 mm; patella and tibia, 2.3 mm; metatarsus, 2.0 mm; tarsus, 0.8 mm. Second patella and tibia, 1.4 mm; third, 0.9 mm; fourth, 1.8 mm. Total length of male 3.0 mm. Carapace 1.4 mm long, 1.3 mm wide. First femur, 3.0 mm; patella and tibia, 3.5 mm; metatarsus, 3.0 mm; tarsus, 1.0 mm. Second patella and tibia, 2.0 mm; third, 1.1 mm; fourth, 1.9 mm.

Diagnosis. This species differs from others of the *T. frondeum* group by the shape of the tegulum and its ducts (Fig. 128) and by the shape of the epigynum which has a central depression, and has the posterior margin heavily sclerotized and containing the openings (Fig. 130).

Records. 3 ♀ paratypes collected with holotype.

THERIDION UNANIMUM Keyserling
Figures 131-134; Map 2

Theridium unanimum Keyserling, 1891, Die Spinnen Amerikas, Brasilianische Spinnen, 3: 181, pl. 6, fig. 126, ♀, ♂. Male and female syntypes from Neu Freiburg [Nova Friburgo, Est. Rio de Jan.] and Fazenda Serra Vermelha, [Est. Rio de Jan.], Brazil, in the British Museum, examined.

Theridion quemadum Levi, 1959, Bull. Mus. Comp. Zool., 121: 140, figs. 257-258, ♀. Female holotype from Chiapas, Mexico, in the American Museum of Natural History. NEW SYNONYMY.

Figures 131-134 were prepared from the syntypes.

Distribution. Mexico to southeastern Brazil (Map 2).

Records. Venezuela. Dist. Fed.: Caracas, 1887-1888 (E. Simon, MNHN); hacienda Corosal, N of Mt. Silla, 1888 (E. Simon, MNHN). *Aragua:* Gulfo Triste (W. Beebe, AMNH). *Brazil. Guanabara:* Leblon (H. Sick, AMNH).

THERIDION SCHRAMMELI sp. n.

Figures 135-136

Holotype. Male from Tamazunchale, San Luis Potosí, Mexico, 20 May 1952 (W. J. Gertsch, M. Cazier, R. Schrammel), in the American Museum of Natural History. The species is named after Mr. R. Schrammel, its collector.

Description. Carapace, sternum, legs yellow-white. Abdomen yellow-white with two pigment lines, fused in front and behind, continuing for a short distance as a single line to the spinnerets. Some scattered, small white spots on sides and also some gray spots. Venter of abdomen yellow-white. Eyes subequal in size. Anterior median eyes one diameter apart, almost touching laterals. Posterior eyes a little less than their diameter apart. Total length 1.5 mm. Carapace 0.71 mm long, 0.67 mm wide. Fourth femur, 0.91 mm; patella and tibia, 0.86 mm; metatarsus, 0.62 mm; tarsus, 0.29 mm.

Diagnosis. The palpus having the median apophysis with a long proximal prong (Figs. 135, 136) separates it from other species of the *T. frondeum* group.

THERIDION COSTARICAENSE sp. n.

Figures 137-138

Holotype. Female from Summit, Panama Canal Zone, 16-17 Aug. 1950 (A. M. Chickering), in the Museum of Comparative Zoology. The specific name is an adjective of Costa Rica.

Description. Carapace, sternum, legs yellow-white. Abdomen yellow-white, except for two parallel rows of about five white spots on dorsum. Eyes small but subequal in size. Anterior median eyes one and one-half diameters apart, one diameter from laterals. Posterior median eyes two diameters apart, one and one-half diameters from laterals. Abdomen bulging and slightly elevated and projecting behind spinnerets but not as much as in members of the genus *Chrysso*. Total length 2.7 mm. Carapace 0.9 mm long, 0.7 mm wide. First femur, 3.1 mm; patella and tibia, 3.0 mm; metatarsus, 2.9 mm; tarsus, 0.9 mm. Second patella and tibia, 1.6 mm; third, 0.9 mm; fourth, 1.6 mm. The right lung of the type specimen is infected with an arthropod parasite.

Diagnosis. The large epigynum depression and short ducts (Figs. 137-138) and the shape of the abdomen separate this species from *T. barroanum*.

Records. Costa Rica: Siquirres, 20-23 May 1944, ♀ paratype (F. Schrader, AMNH). *Venezuela. Carabobo:* San Esteban, 1888, ♀ (E. Simon, MNHN).

THERIDION BARROANUM Levi

Theridion barroanum Levi, 1959, Bull. Mus. Comp. Zool., 121: 122, figs. 234-235, ♀. Female holotype from Panama Canal Zone in the Museum of Comparative Zoology.

Additional record. Ecuador. El Oro: Río Jubanes, Pasaje, 23 Oct. 1942 (R. Walls).

THERIDION HASSLERI sp. n.

Figures 139-140

Holotype. Female from Valle de Polo, 600-1000 m elev., Dominican Republic, Aug. 1935 (H. B. Hassler), in the American Museum of Natural History. The species is named after the collector.

Description. Carapace yellow-white with a gray median band which stops in cephalic region but continues as three diverging lines towards eyes. Sternum yellow-white. Legs yellow-white with black spots on venter. Abdomen yellow-white, dorsum with white pigment and some gray. Eyes very large and subequal. Anterior median eyes two-thirds diameter apart, touching laterals. Posterior eyes their radius apart. Abdomen wider than long, subtriangular. Total length 1.9 mm. Carapace 0.91 mm long, 0.77 mm wide. First femur, 1.55 mm; patella and tibia, 1.62 mm; metatarsus, 1.17 mm; tarsus, 0.60 mm. Second patella and tibia, 1.30 mm; third, 0.74 mm; fourth, 0.92 mm.

Diagnosis. The anterior border of the epigynum depression and the shorter ducts (Figs. 139-140) separate this species from *T. barroanum* Levi.

Record. ♀ paratype collected with holotype.

THERIDION RAMPUM sp. n.

Figures 141-142, 232-233

Holotype. Male from Monzón, Tingo María, Huánuco, Peru, 10 Oct. 1954 (E. I. Schlinger, E. S. Ross), in the California Academy of Sciences. The specific name is an arbitrary combination of letters.

Description. Carapace, sternum, legs yellow. Abdomen black with a white median stripe which is widest in middle and whose margins are emarginate. Venter whitish. Eyes subequal in size. Anterior median eyes one diameter apart, almost touching laterals. Posterior eyes three-quarters their diameter apart. Chelicerae with one tooth on anterior margin. Total length of female from Venezuela 2.4 mm. Carapace 0.8 mm long, 0.8 mm wide. First femur, 1.5 mm; patella and tibia, 1.5 mm; metatarsus, 0.9 mm; tarsus, 0.7 mm. Second patella and tibia 1.0 mm; third, 0.7 mm; fourth, 1.1 mm. Total length of male 1.8 mm. Carapace 0.85 mm long, 0.76 mm wide. First femur, 1.17 mm; patella and tibia, 1.32 mm; metatarsus, 1.01 mm; tarsus, 0.53 mm. Second patella and tibia, 1.04 mm; third, 0.74 mm; fourth, 1.0 mm.

Diagnosis. The course of the duct in the palpus (Figs. 232, 233) separates this species from *T. panamense* Levi and *T. marvum* Levi. The epigynum (Fig. 142) has a subcircular depression. The dark connecting ducts show through the surface posterior to the depression.

Records. Venezuela. Carabobo: San Esteban, March 1888, ♀ ♂ (E. Simon, MNHN).

Theridion marvum Levi

Theridion marvum Levi, 1959, Bull. Mus. Comp. Zool., 121: 128, fig. 326, ♂. Male holotype from Panama Canal Zone, in the Museum of Comparative Zoology.

Record. Venezuela. Carabobo: San Esteban, 1888 (E. Simon, MNHN).

Theridion artum Levi

Theridion artum Levi, 1959, Bull. Mus. Comp. Zool., 121: 124, figs. 313-314, ♀. Female holotype from Panama Canal Zone, in the Museum of Comparative Zoology.

This species was known from the holotype only. The connecting ducts of the Trinidad specimen have a smaller diameter than those of the holotype.

Additional record. Lesser Antilles. Trinidad: Simla near Arima, Feb. 1959, ♀ (A. M. Nadler, AMNH), doubtful determination.

Theridion petrum Levi

Theridion petrum Levi, 1959, Bull. Mus. Comp. Zool., 121: 127, figs. 280-284, ♀, ♂. Male holotype from Panama Canal Zone, in the Museum of Comparative Zoology.

Distribution. Panama, Trinidad, Peru.

Additional records. Peru. Huánuco: Divisoria, 1700 m elev. (F. Woytkowski).

THERIDION TEMPUM Levi

Map 3

Theridion tempum Levi, 1959, Bull. Mus. Comp. Zool., 121: 137, figs. 315-316, ♀. Female holotype from Panama in the Museum of Comparative Zoology.

Note. The specimen from Brazil differs in coloration from the Panamanian type. The carapace is yellowish with a darker median, longitudinal stripe. The sternum is yellow with a black spot on each side. The dorsum of the abdomen has two wide longitudinal bands which fuse above the spinnerets. On each side of the bands are black patches. The venter has a narrow black transverse band which reaches up to the black spots on each side.

Records. Brazil. Pará: Belém, ♀ (M. de Mathan, MNHN).

THERIDION ARMOURI Levi

Figures 143-144

Theridion armouri Levi, 1959, Bull. Mus. Comp. Zool., 121: 138, figs. 259-260, ♀. Female holotype from Panama Canal Zone, in the Museum of Comparative Zoology.

This species was heretofore known only from the holotype specimen.

Additional record. Lesser Antilles. Trinidad: Simla near Arima, Feb. 1959, ♀ (A. M. Nadler, AMNH).

THERIDION MONZONENSE sp. n.

Figures 145-146

Holotype. Female from Monzón Valley, Tingo María, Huánuco, Peru, 2 Dec. 1954 (E. I. Schlinger, E. S. Ross), in the California Academy of Sciences. The species is named after the type locality.

Description. Carapace, sternum, legs yellow. Abdomen yellowish white with some small white pigment spots grouped in irregular patches on each side and in a line above spinnerets on dorsum; venter without marks. Anterior median eyes slightly larger than others, two-thirds their diameter apart, one-quarter their diameter from laterals. Posterior median eyes one diameter apart, a little more than their diameter from laterals. Chelicerae with one long tooth on anterior margin. Total length 2.2 mm. Carapace 0.81 mm long, 0.73 mm wide. First femur, 1.12 mm; patella and tibia, 1.16 mm; metatarsus, 0.55 mm; tarsus, 0.50 mm. Second patella and tibia, 0.83 mm; third, 0.65 mm.

Diagnosis. The epigynum has a depression with an anterior lip with the opening on each side (Fig. 146). It differs from *T. atropunctatum* by having larger tarsi, larger anterior median eyes, and relatively larger epigynum.

THERIDION TERESAE sp. n.

Figures 147-148

Holotype. Female from Santa Teresa, Espírito Santo, Brazil, 26 Jan. 1959 (A. M. Nadler), in the American Museum of Natural History. This species is named after the type locality.

Description. Carapace light brown, darker anterior. Sternum black. Legs brown with a black dorsal longitudinal line extending the full length of the first and second femora. Anterior of abdomen above pedicel black. Dorsum with small white pigment spots and scattered very small gray pigment spots. Venter without pigment. Posterior median eyes larger than other eyes. Anterior medians about subequal to laterals. Anterior median eyes three-quarters their diameter apart, less than one-third from laterals. Posterior median eyes one-third diameter apart, less than their radius from laterals. The abdomen of this species is wider than long. Total length 2.0 mm. Carapace 0.78 mm long, 0.76 mm wide. First femur, 1.50 mm; patella and tibia, 1.52 mm; metatarsus, 0.78 mm; tarsus, 0.40 mm. Second patella and tibia, 1.22 mm; third, 0.64 mm; fourth, 1.00 mm.

Diagnosis. The coiled duct (Fig. 147) separates *T. teresae* from *T. donatum* Banks. The black stripes on the femora separate it also from this and other species having the abdomen wider than long.

THERIDION PARVUM Keyserling

Figures 149-150

Theridium parvum Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 83, pl. 4, fig. 52, ♀. Female holotype from Tambillo, [1800 m elev., Piura, prov. Jean], Peru, in the Polish Academy of Sciences, Warsaw, examined.

This species may be the female of *T. fungosum* Keyserling.

The abdomen is wider than long and has three white spots on dusky background. Anterior median eyes three-quarters diameter apart, their radius from laterals. Posterior eyes three-quarters diameter apart. One blunt tooth on pro-margin of chelicerae. Total length 1.8 mm. Carapace 0.72 mm long. First patella and tibia, 1.70 mm; second, 1.40 mm; third, 0.88 mm; fourth, 1.05 mm.

The figures were prepared from the holotype.

THERIDION FUNGOSUM Keyserling

Figure 179

Theridium mirabile Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 39, pl. 2, fig. 20, ♂. Male type from Paltaypampa, [Junín, ? prov. Tarma] Peru, in the Polish Academy of Science, Warsaw, examined. Name preoccupied by *Theridion mirabile* Holmberg, 1872.

Theridium fungosum Keyserling, 1886, *op. cit.*, 2(2): 294. New name for *T. mirabile* Keyserling, preoccupied.

Theridion guriae Strand, 1917, Arch. Naturgesch., 82(2): 72. New name for *T. mirabile* Keyserling, preoccupied.

Note. Bonnet (1959, Bibliographia Araneorum, 2: 4478) erroneously called this species *T. guriae,* overlooking the fact that Keyserling had already given it a new name.

This species is close to *T. pallisterorum* Levi and *T. dotanum* (Banks); however, the embolus tip differs. *T. parvum* Keyserling may be the female of this species.

Figure 179 was prepared from the holotype of *T. mirabile.*

Record. Ecuador. Chimborazo: 48 km SW of Alausí, 14 Feb. 1955, ♂ (E. I. Schlinger, E. S. Ross, CAS), doubtful determination.

THERIDION BELLATULUM sp. n.

Figures 151-153

Holotype. Female from Teresópolis, Est. Rio de Janeiro, 900-1000 m elev., Brazil (H. Sick), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace, sternum orange. Legs yellowish with darker spots; proximal portion of femora and coxae light. Dorsum of abdomen with a white line enclosing a red lanceolate mark (Fig. 153), black behind and a white line on each side. Venter deep black with a large white spot between epigynum and spinnerets. Eyes subequal in size. Anterior median eyes one diameter apart, one-third diameter from laterals. Posterior median eyes three-quarters diameter apart, one diameter from laterals. Total length 2.4 mm. Carapace 0.98 mm long, 0.91 mm wide. First femur, 1.30 mm; patella and tibia, 1.43 mm; metatarsus, 0.91 mm; tarsus, 0.52 mm. Second patella and tibia, 1.15 mm; third, 0.84 mm; fourth, 1.23 mm.

Diagnosis. The epigynum has a squarish opening with a dark rim (Fig. 152). The internal genitalia (Fig. 151) separate it from *T. volubile*.

THERIDION DECOLORATUM Keyserling
Figures 154-155

Theridium decoloratum Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 234, pl. 20, fig. 289, ♀. Female holotype from Blumenau, [Santa Catarina, Brazil], in the British Museum, examined.

This species may not be a *Theridion*, or it may belong to the group of *T. jamaicense* Levi, *T. antillanum* Simon, and *T. biezankoi* which lacks pigmentation in alcohol, but may have been green when alive.

THERIDION PIRES sp. n.
Figures 156-157

Holotype. Female from Ribeirão Pires, Est. São Paulo, 700-800 m elev., Brazil, Dec. 1945 (H. Sick), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace brown, dark gray on sides and head. Sternum gray. Legs yellow with fine black spots on undersides. Abdomen with a wide white band in irregular outline, slightly dark on sides; white and black marks going at right angles down sides. Venter black with a large white spot between spinnerets and epigynum. Eyes subequal in size. Anterior median eyes three-quarters their diameter apart, almost touching laterals. Posterior median eyes one-third diameter apart, their radius from laterals. Total length 2.00 mm. Carapace 0.78 mm long. Third patella and tibia, 0.65 mm.

Diagnosis. The internal genitalia (Fig. 156) separate this species from *T. volubile*, and the posterior lip separates this species from *T. cowlesae* Levi, found in the United States.

THERIDION TUNGURAHUA sp. n.

Figures 158-160; Map 3

Holotype. Female from Baños, Tungurahua Province, Ecuador, 15-21 June, 1943 (H. E. and D. L. Frizzell), in the Museum of Comparative Zoology. The specific name is a noun in apposition after the type locality.

Description. Carapace yellow with black narrow margin and a narrow black line in middle. Sternum black. Legs yellow with black spots underneath. Abdomen wider than long, white with several black patches; on each side of epigynum a black loop. Anterior median eyes slightly smaller than others, one diameter apart, almost touching laterals. Posterior median eyes one-third diameter apart, their radius from laterals. Total length 2.3 mm. Carapace 0.91 mm long, 0.86 mm wide. First femur, 1.58 mm; patella and tibia, 1.56 mm; metatarsus, 1.04 mm; tarsus, 0.53 mm. Second patella and tibia, 1.23 mm; third, 0.78 mm; fourth, 0.99 mm.

Diagnosis. The circular depression of the epigynum (Fig. 160) and the internal genitalia which seem quite variable (Figs. 158, 159) separate this species from the closely related *T. sexmaculatum* Keyserling; the narrower ducts from *T. fastosum.*

Record. Venezuela. Aragua: Tovar, 1888, ♀ (E. Simon, MNHN). *Brazil. Guanabara:* near Rio de Janeiro (Germain, MNHN). *São Paulo:* Botanical Gardens, São Paulo, Jan. 1959 (A. M. Nadler, AMNH).

THERIDION ATROPUNCTATUM Petrunkevitch

Figures 161-165; Map 2

Theridion atropunctatum Petrunkevitch, 1930, Trans. Connecticut Acad. Sci., 30: 210, figs. 59, 60, ♀. Female holotype from Arecibo, Puerto Rico, probably lost. — Levi, 1957, Bull. Amer. Mus. Nat. Hist., 112: 66, figs. 225-228, 232-234, ♀, ♂, map 21; 1959, Bull. Mus. Comp. Zool., 121: 112.

Note. It is not at all certain if the specimens from southern Brazil (Figs. 161-165) are this species. The palpal radix is partially hidden behind the embolus and the conductor is curved along the embolus (Figs. 161, 162). The drawings were made from São Paulo, Brazil, specimens.

Distribution. Southern Florida, Central America, West Indies, Venezuela, probably to southern Brazil (Map 2).

Additional records. Trinidad. Simla near Arima, 26 Feb.

1959, ♀ (A. M. Nadler, AMNH). *Venezuela. Dist. Fed.:* Caracas, 1887-1888 (E. Simon, MNHN). *Ecuador. El Oro:* Buenavista, 20 km SE of Machala, Nov. 1942 (E. L. Moore). *Brazil. Est. São Paulo:* São Paulo, Forest Reservation, 16 Jan. 1959, ♀ ♂ (A. M. Nadler, AMNH) ; São Paulo, Botanical Gardens, 13-17 Jan. 1959, ♀ ♂ (A. M. Nadler, AMNH).

THERIDION CRISPULUM Simon
Figures 166-172; Map 2

Theridion crispulum Simon, 1895, Ann. Soc. ent. France, 64: 142. Female holotype from La Guaira, [Dist. Fed.], Venezuela, in the Muséum National d'Histoire Naturelle, Paris, examined. — Levi, 1959, Bull. Mus. Comp. Zool., 121: 113.

Theridion intervallatum Emerton, 1915, Trans. Connecticut Acad. Sci., 20: 136, pl. 1, fig. 1, ♂. Male holotype from Intervale, New Hampshire, United States, in the Museum of Comparative Zoology. — Levi, 1957, Bull. Amer. Mus. Nat. Hist., 112: 64, figs. 222-224, 229-231, ♀, ♂, map 21.

Note: There seems to be considerable variation in the epigynum and position of the female ducts (Figs. 168, 170, 171). The illustrations (Figs. 166-172) were made from specimens from São Paulo, Brazil.

Distribution. Eastern North America from Nova Scotia to southern Brazil (Map 2).

Additional records. Trinidad. Piarco (A. M. Nadler, AMNH). *Venezuela. Carabobo:* San Esteban (E. Simon, MNHN). *Surinam.* Paramaibo (A. M. Nadler, AMNH). *Ecuador. Guayas:* Guayaquil (M. E. Hubbard). *El Oro:* Río Jubanes, Pasaje, Oct. (R. Walls). *Brazil. Pernambuco:* Recife (A. M. Nadler, AMNH). *Bahia:* Salvador (A. M. Nadler, AMNH). *Minas Gerais:* Caraça (E. Gounelle, MNHN). *Espírito Santo:* Santa Teresa (A. M. Nadler, AMNH). *Guanabara:* Rio de Janeiro (A. M. Nadler, AMNH). *Est. São Paulo:* São Paulo (A. M. Nadler, AMNH). *Santa Catarina:* Nova Teutonia, lat 27°11′S, long 52°23′W (F. Plaumann, SMF).

THERIDION MINUTISSIMUM Keyserling
Figures 173-176

Theridium minutissimum Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 34, pl. 2, fig. 17, ♀, ♂. Male lectotype designated by Levi, 1959, from Montaña di Nancho 2600 m elev., [? Cajamarca], Peru, in the Polish Academy of Sciences, Warsaw, examined. — Levi, 1959, Bull. Mus. Comp. Zool., 121: 121, fig. 249, ♂.

The illustrations were made from the syntypes.

Record. Panama. (Levi, 1959).

THERIDION POSITIVUM Chamberlin

Figures 177-178; Map 2

Theridion positivum Chamberlin, 1924, Proc. California Acad. Sci., (4)12: 636. Female holotype from Pond Island, Gulf of California, in the California Academy of Sciences. — Levi, 1957, Bull. Amer. Mus. Nat. Hist., 112: 68, figs. 237-239, 243-246, ♀, ♂, map 22.

Theridion denisi Caporiacco, 1955, Acta Biol. Venezuelica, 1: 332, fig. 24, ♀. Female type from Rancho Grande, Aragua, Venezuela in the Museo de Biologiá, Universidad Central, Caracas, examined. NEW SYNONYMY.

Distribution. Southern California, southern Texas, Mexico, Central America, West Indies, Venezuela, northwestern Peru to southern Brazil (Map 2).

Additional records. Haiti: Damiens, Port-au-Prince (A. M. Nadler, AMNH). *Venezuela Dist. Fed.:* Caracas, 1887-1888 (E. Simon, MNHN). *British Guiana.* Georgetown, Feb. 1959 (A. M. Nadler, AMNH). *Ecuador. El Oro:* Arenillas, Oct. 1942 (R. Walls). *Peru. Piura:* Valle Pariñas, April 1939 (H. E., D. L. Frizzell). *Brazil. Pará:* Belém, Feb. 1959, ♀ (A. M. Nadler, AMNH), doubtful det. *Espírito Santo:* Santa Teresa, Jan. 1959, ♀ (A. M. Nadler, AMNH). *São Paulo:* São Paulo, Jan. 1959 (A. M. Nadler, AMNH). *Santa Catarina:* Nova Teutonia, lat 27°11′S, long 52°23′W, ♂ (F. Plaumann, SMF). *Paraguay.* ♀ (Germain, MNHN).

THERIDION MARON sp. n.

Figures 180-181

Holotype. Female from "S. Louis" [? S. Luis de la Sierra], Paraguay, Oct. 1908, in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. The whole spider yellow-white except for dorsum of abdomen which has some fine scattered white pigment spots and a median dorsal white band having a wavy outline. Eyes subequal in size. Anterior median eyes one diameter apart, almost touching laterals. Posterior eyes a little less than their diameter apart. The abdomen is slightly wider than long. Total length 2.7 mm. Carapace 0.83 mm long, 0.72 mm wide. First femur, 1.50 mm. Second patella and tibia, 0.96 mm; third, 0.68 mm.

Diagnosis. This species which belongs to the *T. murarium* group has internal genitalia (Fig. 180) which are similar to *T. australe* Banks and *T. goodnightorum* Levi. However, it lacks the black coloration of these North American species.

Natural History. Theridion maron has been found on shrubs.

THERIDION QUERULUM Keyserling

Figures 182-183

Theridium querulum Keyserling, 1891, Die Spinnen Amerikas, Brasilianische Spinnen, 3: 186, pl. 6, fig. 131, ♀. Female holotype from Rio Grande do Sul, Brazil, in the British Museum, examined.

THERIDION RUBRUM (Keyserling), new combination

Figures 184-185

Steatoda rubra Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 239, pl. 20, fig. 294, ♀. Female holotype from Blumenau, [Santa Catarina], Brazil, in the British Museum, examined.

THERIDION SCHLINGERI sp. n.

Figures 186-187

Holotype. Female from Monzón Valley, near Tingo María, Huánuco, Peru, 10 Oct. 1954 (E. I. Schlinger, E. S. Ross), in the California Academy of Sciences. The species is named after Dr. E. I. Schlinger, its collector.

Description. Carapace, sternum, legs yellowish white. Abdomen yellowish white with irregular white pigment spots on dorsum. Anterior median eyes slightly smaller than others, one and one-half diameters apart, more than their diameter from laterals. Posterior median eyes one diameter apart, more than a diameter from laterals. Total length 2.9 mm. Carapace 1.0 mm long, 0.8 mm wide. First femur, 2.4 mm; patella and tibia, 2.3 mm; metatarsus, 2.3 mm; tarsus, 0.7 mm. Second patella and tibia, 1.3 mm; third, 0.8 mm; fourth, 1.4 mm.

Diagnosis. The epigynum whose openings are on the posterior margin and facing posteriorly (Figure 187) separates this species from other *Theridion*. No species close to *T. schlingeri* are known.

THERIDION MACHU sp. n.

Figures 188-189

Holotype. Female from Machu Picchu, Cuzco, 2100 m elev., Peru, 20-21 March 1947 (J. C. Pallister), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. The spider is yellowish white, almost without pigment except for the dorsum of the abdomen which is covered solid with white pigment. Eyes very small. Anterior median eyes smaller than others, two and one-quarter diameters apart, a little more than one diameter from laterals. Posterior eyes one and one-half diameters apart. Total length 2.7 mm. Carapace 1.1 mm long, 0.9 mm wide. First femur, 2.7 mm; patella and tibia, 2.6 mm; metatarsus, 2.8 mm; tarsus, 0.9 mm. Second patella and tibia, 1.5 mm; third, 0.9 mm; fourth 1.6 mm.

Diagnosis. The epigynum has an indistinct oval depression with a darker spot on each side. The long coiled connecting duct (Fig. 188) readily separates this species from other *Theridion.*

THERIDION SENCKENBERGI sp. n.

Figures 190-191

Holotype. Female from Maracay, Aragua, Venezuela, in the Senckenberg Museum (no. RII/9162/1). The species is named after Dr. J. C. Senckenberg, 18th century physician and naturalist.

Description. Carapace, sternum, legs whitish. Legs with narrow black rings around distal ends of first tibiae and tarsi. Abdomen whitish with large white pigment areas on dorsum. Anterior median eyes smaller than others, one and one-half diameters apart, one diameter from laterals. Posterior eyes one and one-half diameters apart. Chelicerae with two teeth on anterior margin. Total length 3.1 mm. Carapace 1.1 mm long, 0.9 mm wide. First femur, 2.3 mm; patella and tibia, 2.5 mm; metatarsus, 2.0 mm; tarsus, 0.8 mm. Second patella and tibia, 1.4 mm; third, 0.9 mm; fourth, 1.5 mm.

Diagnosis. The looping ducts of the epigynum (Fig. 190) separate this species from others belonging to the *T. frondeum* group, especially the related *T. incertissimum.*

THERIDION INCERTISSIMUM (Caporiacco), new combination

Figures 192-193

Tidarren incertissimum Caporiacco, 1954, Comm. Pontifica Acad. Sci., 16: 77. Female holotype from St. Jean du Maroni, French Guiana, in the Muséum National d'Histoire Naturelle, Paris, examined.

Description. The coloration is yellow-white. The abdomen has white and gray stripes down each side. The total size is 3.7 mm. The opening of the epigynum (Fig. 193) is indistinct. The epigynum is lightly transparent and some of the ducts are visible. It may belong to the genus *Achaearanea.*

Record. Brazil. Amazonas: (or Loreto, Peru) "Pebas, São Paulo de Olivença" 3 ♀ (MNHN).

THERIDION ADAMSONI Berland
Map 1

Theridion adamsoni Berland, 1934, Bull. B. P. Bishop Mus., no. 113: 102, figs. 6-9, ♀. Female syntypes from Tahiti in the B. P. Bishop Museum, Honolulu, examined.

Theridion hobbsi Gertsch and Archer, 1942, Amer. Mus. Novitates, no. 1171: 5, fig. 6, ♀. Female holotype from Florida, in the American Museum of Natural History. — Levi, 1957, Bull. Amer. Mus. Nat. Hist., 112: 62, figs. 198-199, 209, 213-214, ♀, ♂, map 28.

Distribution. Cosmotropical; Gulf coast states, West Indies, Panama to Brazil (Map 1).

Additional records. Cuba. Oriente: Baños (A. Archer). *Puerto Rico:* Villa Uro. *Brazil.* Pará: Belém (A. M. Nadler, AMNH). *Bahia:* Salvador (A. M. Nadler, AMNH). *Ceará:* Fortaleza (A. M. Nadler, AMNH). *Guanabara:* Rio de Janeiro (A. M. Nadler); Tijuca (E. Gounelle, MNHN).

Ghana. Accra, Achimota, June, July, 1961 (C. P. Hinckley), on and in house.

THERIDION APOSTOLI Mello-Leitão
Figures 196-197

Theridion apostoli Mello-Leitão, 1945, Rev. Mus. La Plata, n. s., 4: 234, fig. 8, ♀. Female holotype from Mburucuyá, Corrientes, Argentina, in the Museo de la Plata, examined.

The epigynum and general appearance of this small species resembles *T. adamsoni* Berland. The epigynum (Fig. 197), having a septum at the anterior of the depression, readily separates it from *T. adamsoni.*

THERIDION AMPASCACHI Mello-Leitão
Figures 198-199

Theridion ampascachi Mello-Leitão, 1941, Rev. Mus. la Plata, n. s., 2: 144, fig. 40, ♀. Female holotype from Ampascachi, Salta, Argentina, in the Museo de la Plata, examined.

The genitalia (Figs. 198-199) readily distinguish this light-colored species from other *Theridion.*

THERIDION DOMINICA sp. n.

Figures 200-201

Holotype. Female from Roseau, Dominica, Lesser Antilles, in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace, sternum, legs yellow-white. Abdomen yellow-white with white pigment on dorsum, and a gray patch anterior to spinnerets on venter. Anterior median eyes slightly smaller than others, two diameters apart, one diameter from laterals. Posterior eyes one diameter apart. Chelicerae with two teeth on anterior margin. Total length 3.8 mm. Carapace 1.6 mm long, 1.2 mm wide. First femur, 5.5 mm; patella and tibia, 5.4 mm; metatarsus, 6.0 mm; tarsus, 1.4 mm. Second patella and tibia, 2.9 mm; third, 1.4 mm; fourth, 3.3 mm.

Diagnosis. The genitalia separate this species from others of the *T. frondeum* group. The epigynum (Fig. 201) has two openings towards the anterior of a lightly sclerotized plate.

THERIDION TOROSUM Keyserling

Figures 202-203

Theridium torosum Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 36, pl. 2, fig. 18, ♀, ♂. Female holotype from Montaña di Nancho, 2500 m elev., [? Cajamarca], Peru, in the Polish Academy of Sciences, examined.

This large species has an epigynum with a shallow depression containing at its anterior end a dark round spot (Fig. 203). There is a pair of dark spots, the ducts, behind. Behind the depression is a groove. Figures 202-203 were made from the holotype.

THERIDION MACUCHI sp. n.

Figures 204-205

Holotype. Female from Macuchi, copper mining camp, probably in Los Ríos Prov., some distance from Río Palenque, Ecuador, March 1943 (H. E. Frizzell), in the Museum of Comparative Zoology. The specific name is a noun in apposition after the type locality.

Description. Carapace uneven brown. Sternum brown. Legs brown with darker spots on venter. Abdomen dark gray with a pair of white pigment spots on back and a few small spots on sides. Anterior median eyes slightly smaller than others, their diameter apart, one-quarter their diameter from laterals. Posterior eyes one diameter apart. Total length 2.5 mm. Carapace 1.04 mm long, 0.95 mm wide. First femur, 1.50 mm; patella and tibia, 1.56 mm; metatarsus, 1.08 mm; tarsus, 0.62 mm. Second patella and tibia, 1.08 mm; third, 0.78 mm; fourth, 1.30 mm.

Diagnosis. The internal female genitalia separate this species from *T. morulum* O. P.-Cambridge. The epigynum (Fig. 205) is quite similar; it has a very dark shiny knob at the posterior edge. The openings are believed to be slightly separated on the tip of the knob.

THERIDION MARANUM sp. n.

Figure 206

Holotype. Male from Tovar, Aragua, Venezuela, 1888 (E. Simon), in the Muséum National d'Histoire Naturelle, Paris (no. 11631). The specific name is an arbitrary combination of letters.

Description. Carapace yellow, darker on sides, a small black spot near posterior border. Sternum light yellow. Legs yellow-white. Abdomen white with seven gray symmetrically arranged round spots on dorsum. Carapace quite long, low and sclerotized. Eyes appearing small. Anterior median eyes slightly smaller than others, one and one-half their diameter apart, one and one-quarter their diameter from laterals. Posterior eyes one and one-half their diameter apart. Total length 2.0 mm. Carapace 1.09 mm long, 0.81 mm wide. First femur, 1.20 mm; patella and tibia, 1.36 mm; metatarsus, 0.96 mm; tarsus, 0.41 mm. Second patella and tibia, 0.91 mm; third, 0.57 mm; fourth, 0.91 mm.

Diagnosis. This species is close to *T. rufipunctum;* most likely the abdomen of the female is wider than long. The palpus (Fig. 206) has a shorter tibia, larger, more sclerotized median apophysis and heavier embolus.

THERIDION UMBILICUS sp. n.

Figures 207-208

Holotype. Male from Caraça, Minas Gerais, Brazil (E. Gounelle), in the Muséum National d'Histoire Naturelle, Paris (no. 8884). The specific name is a noun meaning navel.

Description. Carapace, sternum orange. Legs yellowish, distal segments darker to brown. Abdomen with a median dorsal longitudinal light band, narrow anterior and posterior, containing some white pigment spots which are dense above spinnerets. The band is bordered by black. Sides of dorsum light. Venter of abdomen black with black tongues going up sides and a white spot between genital area and spinnerets. Anterior median eyes slightly larger than others, their diameter apart, one-third their diameter from laterals. Posterior median eyes a little more than one diameter apart, one and one-half diameters from laterals. Posterior median eyes slightly triangular in shape. Chelicerae with one tooth on anterior margin. Total length 2.2 mm. Carapace 1.0 mm long, 0.9 mm wide. First femur, 1.4 mm; patella and tibia, 1.3 mm; metatarsus, 1.1 mm; tarsus, 0.6 mm. Second patella and tibia, 1.1 mm; third, 0.8 mm; fourth, 1.0 mm.

Diagnosis. This species is separated from others by the button-like mark on the tegulum of the palpus (Fig. 207). The embolus lies underneath a lobe of the tegulum and can only be seen in the cleared palpus (Fig. 208). Otherwise the species looks similar to *Achaearanea quadripartitum.*

THERIDION AULOS sp. n.

Figure 209

Holotype. Male from Jabaquara, 700-800 m elev., Cidade São Paulo, Brazil, 21 Dec. 1945 (H. Sick), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace, sternum, legs yellowish. Head region black. Abdomen white. Eyes subequal in size. Anterior median eyes one and one-half diameters apart, three-quarters from laterals. Posterior median eyes one diameter apart, one and one-quarter diameters from laterals. Abdomen very soft, almost shapeless in alcohol. Total length 1.7 mm. Carapace 0.71 mm long, 0.66 mm wide. First femur, 1.36 mm; patella and tibia, 1.10 mm; metatarsus, 0.75 mm; tarsus, 0.45 mm. Second patella and tibia, 0.88 mm; third, 0.68 mm; fourth, 0.85 mm.

Diagnosis. Unlike other species of *Theridion* known, the tegulum is very heavily sclerotized (Fig. 209).

Record. One ♂ paratype collected with holotype.

THERIDION NESTICUM sp. n.

Figure 210

Holotype. Male from Simla near Arima, Trinidad, Lesser Antilles, 26 Feb. 1959 (A. M. Nadler), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace light brown. Sternum light grayish brown. Legs very light brown. Dorsum of abdomen with white pigment spots in an anterior and a posterior transverse band; some black pigment posterior on sides. Carapace almost circular in outline. Lateral eyes noticeably smaller than other eyes. Posterior median eyes largest. Anterior median eyes two-thirds their diameter apart, touching laterals. Posterior median eyes one-third diameter apart, their radius from laterals. Chelicerae with two teeth on the anterior margin, the outside tooth being larger, and one tooth on the inside margin. The anterior end of the subtriangular abdomen has two sclerotized ridges above the pedicel. Total length 1.9 mm. Carapace 0.77 mm long, 0.77 mm wide. First femur, 1.88 mm; patella and tibia, 1.82 mm; metatarsus, 1.28 mm; tarsus, 0.50 mm. Second patella and tibia, 1.53 mm; third, 0.75 mm; fourth, 1.11 mm.

Diagnosis. The relationship of this species to others is quite uncertain. It is believed that the abdomen of the female is wider than long. The palpus (Fig. 210) resembles that of species belonging to *Anelosimus.* It lacks a colulus; however, it has a tooth on the posterior margin of the chelicerae, an unusual feature in *Theridion.* It may be close to *T. adamsoni;* the base of the embolus separates the two species.

THERIDION ALTUM sp. n.

Figures 211-212

Holotype. Female from Taguararapa, Alto-Paraná, Paraguay, in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace, sternum yellow-white. Legs yellow-white with narrow black rings and distal portions of femora black. Abdomen yellow-white with a median white band, on the side of which are small white and black spots; venter yellow-white. Eyes subequal in size. Anterior median eyes their diameter apart, almost touching laterals. Posterior median eyes their radius apart, three-quarters diameter from laterals. Total length 2.2 mm. Carapace 0.83 mm long, 0.75 mm wide. First femur, 1.38 mm; patella and tibia, 1.40 mm; metatarsus, 1.09 mm; tarsus, 0.48 mm. Second patella and tibia, 0.98 mm; third, 0.65 mm; fourth, 1.01 mm.

Diagnosis. The epigynum (Fig. 212) is a slight orange swelling with an indistinct slit. The long connecting ducts show through the anterior portion of the swelling and are similar to those of *T. antillanum* Simon. *Theridion altum* differs from *T. antillanum* by having oval seminal receptacles and lacking the posterior lip on the epigynum. The species may also be close to the larger *T. biezankoi* known only from a male.

THERIDION BIEZANKOI sp. n.

Figure 213

Holotype. Male from Pelotas, Est. Rio Grande do Sul, Brazil, Oct. 1954 (C. Biezanko), in the American Museum of Natural History. The species is named after Prof. C. M. Biezanko, its collector.

Description. The spider is whitish without pigment in alcohol, except for pigment in eyes. The eyes seem far apart and small. Eyes subequal in size. Anterior median eyes two diameters apart, a little more than one diameter from laterals. Posterior median eyes two diameters apart, one and one-half diameters from laterals. Abdomen almost spherical. Total length 3.5 mm. Carapace 1.6 mm long, 1.4 mm wide. Second patella and tibia, 2.0 mm; third, 1.2 mm; fourth, 2.4 mm.

Diagnosis. This species, which is close to *T. antillanum*, has a longer embolus and a more elaborate palpus (Fig. 213). It is not known with certainty that the supporting structure of the embolus is the radix. The shape of the cymbium resembles that in some species of *Chrysso*. The species may also be close to the smaller *T. altum* known only from a female.

THERIDION ROSSI sp. n.

Figures 214-216

Holotype. Female from west side of Carpish Mountains, 65 km west of Tingo María, Huánuco, Peru, 17 Oct. 1954 (E. I. Schlinger, E. S. Ross), in the California Academy of Sciences. The species is named after Dr. E. S. Ross, its collector.

Description. The whole spider is light yellowish, the only pigment being in the eyes. Anterior median eyes slightly smaller than others, more than two diameters apart, one and one-half diameters from laterals. Posterior median eyes two-thirds diameter apart, one and one-quarter from laterals. Chelicerae with two teeth on anterior margin. Abdomen very soft. Total length 3.7 mm. Carapace 1.4 mm long, 1.1 mm wide. First femur, 4.1 mm; patella and tibia, 4.0 mm; metatarsus, 4.3 mm; tarsus, 1.4 mm. Second patella and tibia, 2.2 mm; third, 1.1 mm; fourth, 2.2 mm.

Diagnosis. This species may be related to *T. jamaicense* Levi and *T. antillanum* Simon; it differs, however, in the structure of the epigynum (Figs. 214, 216). The seminal receptacles are embedded on each end of the sclerotized area (Fig. 215). However, since only one specimen was available this could not be studied in detail. The projecting epigynum is divided by a deep transverse posterior groove (Figs. 214, 216).

Theridion impigrum Keyserling

Figures 217-218

Theridium impegrum Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 232, pl. 20, fig. 286, ♀. Female holotype from Blumenau, Santa Catarina, Brazil, in the British Museum, examined.

Only fragments of the type are in existence. The name should be *impigrum*, meaning "untiring."

Theridion paraense sp. n.

Figures 219-220

Holotype. Female from Belém, Pará, Brazil (M. de Mathan), in the Muséum National d'Histoire Naturelle, Paris (no. 4239). The species is named after the type locality.

Description. Carapace yellow-brown with a central dorsal dusky mark and a fine gray line around edge. Sternum yellow-brown. Legs yellow-brown. Abdomen brownish white with two fine lines on anterior portion of dorsum. The two lines cross each other at right angles. There is some gray on venter. Eyes subequal in size. Anterior median eyes two-thirds diameter apart, almost touching laterals. Posterior median eyes one diameter apart, two-thirds diameter from laterals. One blunt tooth on anterior margin of chelicerae. Total length 2.7 mm. Carapace 1.0 mm long, 0.9 mm wide. First femur, 1.4 mm; patella and tibia, 1.4 mm; metatarsus, 1.2 mm; tarsus, 0.5 mm. Second patella and tibia, 0.8 mm; third, 0.7 mm; fourth, 1.2 mm.

Diagnosis. The epigynum of this indistinct species has a central depression with a posterior projecting lip (Fig. 220). The anterior thickest portion of the swelling is opaque and the posterior portion is slightly transparent showing the two heavily sclerotized ducts. The opening faces anteriorly into the depression (Fig. 220). Its relationship to other species is unknown.

THERIDION NIGRICEPS Keyserling
Figures 221-224

Theridium nigriceps Keyserling, 1891, Die Spinnen Amerikas, Brasilianische Spinnen, 3: 188, pl. 6, fig. 134, ♀. Female holotype from Botucatu, Est. São Paulo, Brazil, in the British Museum, examined. — Göldi, 1892, Mitt. Osterlande, neue Folge, 5: 37.

Description. Carapace yellow, head region black. In some just eye region black, in others the black spot reaches one-third length of carapace. Sternum yellow. Legs yellowish with distal segments darker to brown. Abdomen yellowish white without marks. Eyes subequal in size. Anterior median eyes their diameter apart, two-thirds diameter from laterals. Posterior median eyes a little less than their diameter apart, one diameter from laterals. Total length 1.6 mm. Carapace 0.55 mm long, 0.55 mm wide. First femur, 1.16 mm; patella and tibia, 1.04 mm; metatarsus, 0.81 mm; tarsus, 0.45 mm. Second patella and tibia, 0.81 mm; third, 0.65 mm; fourth, 0.79 mm.

Figures 221, 222 were made from the holotype.

Record. Brazil. Minas Gerais: Caraça, 3 ♀ (E. Gounelle, MNHN).

THERIDION OPOLON sp. n.
Figures 225, 258-259

Holotype. Male from Teresópolis, 900-1000 m elev., Est. Rio de Janeiro, Brazil, March 1946 (H. Sick), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace orange-yellow, that of female yellow-white with some duskiness on carapace and sternum. Legs orange-yellow. Abdomen white with a well defined black patch above spinnerets on dorsum, that of female with three black patches in a line, the middle one the smallest, each patch having a small amount of white pigment in center. Eyes subequal in size in males, in females anterior medians slightly smaller than others.

Anterior median eyes less than their diameter apart, almost touching laterals. Posterior eyes a little more than their radius apart. The first femora of male enlarged and swollen. Total length of female 1.3 mm. Carapace 0.62 mm long, 0.52 mm wide. First femur, 0.78 mm; patella and tibia, 0.78 mm; metatarsus, 0.47 mm; tarsus, 0.38 mm. Second patella and tibia, 0.58 mm; third, 0.39 mm; fourth, 0.65 mm. Total length of male 1.3 mm. Carapace 0.65 mm long, 0.59 mm wide. First femur, 0.92 mm; patella and tibia, 1.02 mm; metatarsus, 0.53 mm; tarsus, 0.33 mm. Second patella and tibia, 0.71 mm; third, 0.47 mm; fourth, 0.65 mm.

Diagnosis. This species is close to *T. atropunctatum* and also has the first leg of the male enlarged. The palpus (Fig. 225), however, is very different, lightly sclerotized and very difficult to study.

Record. Brazil. One ♀ collected at the same place and date as ♂, also marked with a black spot above spinnerets. *São Paulo.* Ipiranga, São Paulo, Jan. 1959, ♀ (A. M. Nadler, AMNH). *Santa Catarina:* ♀ (Bergroth, MNHN).

THERIDION RUBIGINOSUM Keyserling

Figure 226

Theridium rubiginosum Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 80, pl. 4, fig. 49, ♂. Male holotype from Paraná, [Brazil], in the Hope Department of Entomology, Oxford University, examined.

THERIDION APORUM sp. n.

Figures 227, 228

Holotype. Male from Caraça, Minas Gerais, Brazil (E. Gounelle), in the Muséum National d'Histoire Naturelle, Paris (no. 9208). The specific name is an arbitrary combination of letters.

Description. Carapace orange-brown. Sternum orange. Femora of first and second legs, which are sclerotized, orange-brown; other legs and segments yellowish. Abdomen grayish with four black spots on dorsum and a white crescent between (Fig. 228). Anterior median eyes smaller than others, their radius apart, touching laterals. Posterior median eyes one-third diameter apart, their radius from laterals. Abdomen with two anterior sclerotized stridulating areas above pedicel. Total length 1.4 mm. Carapace 0.65 mm long, 0.65 mm wide. First femur, 1.32

mm; patella and tibia, 1.33 mm; metatarsus, 0.78 mm; tarsus, 0.41 mm. Second patella and tibia, 1.04 mm; third, 0.60 mm; fourth, 0.85 mm.

Diagnosis. The sclerotized conductor, which extends beyond the cymbium (Fig. 227), separates this species from other *Theridion.* The species may belong to a group whose females have the abdomen wider than long; its relationship is uncertain.

THERIDION OSPRUM sp. n.
Figure 229

Holotype. Male from Rancho Grande, Aragua, Venezuela, 4 March 1959 (A. M. Nadler), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace yellow-white, reddish in eye region. Sternum, legs yellow-white. Abdomen grayish with a wide, white band across dorsum. Anterior median eyes slightly smaller than others, their radius apart, almost touching laterals. Posterior median eyes one-third diameter apart, their radius from laterals. Chelicerae with tubercles on anterior face near base. Abdomen as wide as long, subtriangular. Total length 1.3 mm. Carapace 0.65 mm long, 0.57 mm wide. First femur, 1.17 mm; patella and tibia, 1.25 mm; metatarsus, 1.01 mm; tarsus, 0.39 mm. Third patella and tibia, 0.49 mm; fourth, 0.71 mm.

Diagnosis. The palpus (Fig. 229), which has a long median apophysis supporting a translucent embolus, separates this species from other *Theridion.* It is not close to any species known.

THERIDION URUCUM sp. n.
Figure 230

Holotype. Male from Urucum, near Corumbá, Est. Mato Grosso, Brazil, 8 Jan. 1959 (A. M. Nadler), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace yellow-white, dusky on sides and with gray border. Eye region reddish. Sternum, legs yellow-white. Dorsum of abdomen with white pigment spots, gray on sides. Venter gray in genital area. Eyes subequal in size. Anterior median eyes two-thirds their diameter apart, almost touching laterals. Posterior eyes their radius apart. Abdomen subtriangular; it might have a hump. Total length 1.4 mm. Carapace 0.55 mm long, 0.58 mm wide. First femur, 1.62 mm; patella and tibia, 1.70 mm; metatarsus, 1.33 mm; tarsus, 0.60 mm. Second patella and tibia, 1.01 mm; third, 0.61 mm; fourth, 0.96 mm.

Diagnosis. The transparent palpus is difficult to study, since the sclerites are hard to delineate. The palpus (Fig. 230) is very distinct from that of other species of *Theridion.* The abdomen might have a hump in the female, suggesting that this species may belong to *Chrysso.*

THERIDION STANNARDI sp. n.

Figure 231

Holotype. Male from Finca Mante Libano, Ososingo Valley, Chiapas, Mexico, 4 July 1950 (C., M. Goodnight, L. Stannard), in the American Museum of Natural History. The species is named after Dr. L. Stannard, its collector.

Description. Carapace olive-yellow with a short median, gray line. Sternum olive-yellow with some gray. Legs olive-yellow with very faint indications of bands. Abdomen gray with a white median band, narrow in front and behind; black on sides. Venter with a white spot between the epigynum and spinnerets. Anterior median eyes slightly larger than others, two-thirds their diameter apart, one-quarter from laterals. Posterior median eyes their radius apart, two-thirds diameter from laterals. Total length 1.8 mm. Carapace 0.81 mm long, 0.71 mm wide. First femur, 1.13 mm; patella and tibia, 1.30 mm; metatarsus, 1.00 mm; tarsus, 0.52 mm. Second patella and tibia, 0.92 mm; third, 0.60 mm; fourth, 0.92 mm.

Diagnosis. The structure, particularly the distal tip of the palpus (Fig. 231) separates this species from *T. lathropi* Levi found in Panama.

THERIDION BEEBEI sp. n.

Figure 234

Holotype. Male from Rancho Grande, near Maracay, Venezuela, 31 Aug. 1946 (W. Beebe), in the American Museum of Natural History. The species is named after Dr. W. Beebe, naturalist, and its collector.

Description. Carapace, sternum, legs yellow-brown. Abdomen dorsum black with a median white band having a wavy border; band narrowest in front and again narrowing behind. Venter with a white spot between spinnerets and epigynum. Eyes subequal in size. Anterior median eyes two-thirds diameter apart, almost touching laterals. Posterior median eyes two-thirds diameter apart, one diameter from laterals. Total length 2.2 mm. Carapace 0.98 mm long, 0.84 mm wide. First femur, 1.32 mm; patella and tibia, 1.43 mm; metatarsus, 1.04 mm; tarsus, 0.49 mm. Second patella and tibia, 1.08 mm; third, 0.75 mm; fourth, 1.05 mm.

Diagnosis. This species seems close to *T. marvum,* but differs by the palpal sclerites (Fig. 234). The palpus resembles that of members of the genus *Achaearanea.* However, it is more complex; the embolus and median apophysis are separated and a radix appears to be present.

THERIDION CUYUTLAN sp. n.

Figure 235

Holotype. Male from Cuyutlán, Colima, Mexico, 11 Jan. 1943 (F. Bonet), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace yellowish, olive on sides. Sternum olive-gray, yellow anteriorly. Legs olive-yellow. Abdomen gray to black with a series of three well defined unpigmented stripes, as wide as intermediate areas, on each side. Also an anterior median spot and colorless spot above spinnerets. Eyes subequal in size. Anterior median eyes one diameter apart, almost touching laterals. Posterior eyes three-quarters diameter apart. Total length 1.7 mm. Carapace 0.75 mm long, 0.69 mm wide. First femur, 1.23 mm; patella and tibia, 1.30 mm; metatarsus, 1.01 mm. Second patella and tibia, 0.91 mm; third, 0.62 mm; fourth, 0.88 mm.

Diagnosis. The generic placement is uncertain; since only one specimen was available, the palpus was not expanded for examination. It is thought to be close to *T. panamense* Levi; the palpal structure (Fig. 235), however, separates it.

THERIDION PANAMENSE Levi

Theridion panamense Levi, 1959, Bull. Mus. Comp. Zool., 121: 123, figs. 263-267, ♀, ♂. Male holotype from El Volcán, Panama, in the Museum of Comparative Zoology.

Distribution. Panama to Ecuador.

Additional records. Ecuador. El Oro: Río Jubanes, Pasaje, ♂ (A. Wells), doubtful det.

THERIDION SIGNACULUM Levi
Map 3

Theridion signaculum Levi, 1959, Bull. Mus. Comp. Zool., 121: 134, figs. 301-302, 333, ♀, ♂. Male holotype from Panama Canal Zone, in the Museum of Comparative Zoology.

Distribution. Panama to northern Brazil (Map 3).

Additional record. Brazil. Pará: Municipal Park, Belém, 12 Feb. 1959, ♀, ♂ (A. M. Nadler, AMNH).

THERIDION OLAUP sp. n.
Figure 236

Holotype. Male from Forest Reservation, Cid. São Paulo, Brazil, 16 Jan. 1959 (A. M. Nadler), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace yellow-white, head and first legs slightly darker, brownish. Abdomen whitish with three pairs of round black spots on dorsum in two parallel rows. Anterior median eyes larger than others, a little more than their diameters apart, almost touching laterals. Posterior median eyes one and one-half diameters apart, almost one diameter from laterals. Abdomen longer than wide. Total length 1.7 mm. Carapace 0.82 mm long, 0.68 mm wide. First femur, 1.08 mm; patella and tibia, 1.24 mm; metatarsus, 0.86 mm; tarsus, 0.48 mm. Second patella and tibia, 0.82 mm; third, 0.48 mm; fourth, 0.72 mm.

Diagnosis. The palpus is very lightly sclerotized and sclerites are difficult to delineate (Fig. 236). The palpus is much narrower than that of the related *T. nudum.*

Record. One ♂ paratype (with palpus expanded) collected with holotype.

THERIDION EXLINAE sp. n.
Figures 237-240

Holotype. Male from Sullana, Piura, Peru, 5 Oct. 1941 (H. E. and D. L. Frizzell), in the Museum of Comparative Zoology. The species is named after Mrs. Frizzell (Dr. H. Exline).

Description. Carapace, sternum, legs yellow. Abdomen gray with large irregular black patches that are more extensive on venter; sometimes many small white spots on dorsum. Anterior median eyes slightly smaller than others, their diameter apart and two-thirds diameter from laterals. Posterior eyes one diameter apart. Chelicerae with one anterior tooth. Total length of female 2.8 mm. Carapace 0.87 mm long, 0.78 mm wide. First femur, 1.10 mm; patella and tibia, 1.13 mm; metatarsus, 0.91 mm; tarsus, 0.52 mm. Second patella and tibia, 0.95 mm; third, 0.73 mm; fourth, 1.10 mm. Total length of male 2.8 mm. Carapace 1.04 mm long, 0.84 mm wide. First femur, 1.17 mm; patella and tibia, 1.30 mm; metatarsus, 1.04 mm; tarsus, 0.42 mm. Second patella and tibia, 1.06 mm; third, 1.03 mm; fourth, 1.04 mm.

The male has the chelicerae enlarged and has one large tooth. The anterior of the male abdomen has a very small stridulating area, a structure usually not present in this genus.

Diagnosis. The epigynum of this species is indistinct; a lighter area sometimes with two slightly sclerotized openings far apart on the anterior, usually openings just apparent as dark spots (Fig. 240). Palpus (Fig. 237) very small, probably with all sclerites present. Femora of palpus with a thorn (Fig. 238). The genitalia as well as the thorn on the palpal femora ally this species to *T. bergi*, the longer fertilization ducts and shorter legs separate it. The possibility that the two belong to the same species should be considered when additional specimens become available.

Records. Ecuador. Guayas: Milagro, 10 May 1942 (H. E., D. L. Frizzell). *Tungurahua.* Río Topo, 17 June 1943, 3 ♀ paratypes (H. E., D. L. Frizzell). *Peru. Piura:* Sullana, 5 Oct. 1941, ♀ paratypes (H. E., D. L. Frizzell); Higueron, Las Lomas, 29 July 1941, ♀ ♂ paratypes (H. E., D. L. Frizzell); Chira River, 26 Jan. 1941, ♀ ♂ paratypes (H. E., D. L. Frizzell); Mallares, Chira River, 6 April 1941 (H. E. Frizzell).

THERIDION BERGI sp. n.

Figures 86-87

Holotype. Female from Buenos Aires, Argentina (C. Berg), in the Muséum National d'Histoire Naturelle, Paris (no. 4081). The species is named after its collector, former director of the Museo Argentino de Ciencas Naturales.

Description. Carapace yellowish with median longitudinal gray band of variable width in different specimens. Sternum, legs yellow. Abdomen gray with two white dorsal longitudinal bands, one on each side, composed of small white pigment spots. Scattered small white pigment spots between. About 6 paired gray spots in two rows on each side touch the median margin of white bands. Venter dark gray between genital area and spinnerets. Anterior median eyes slightly smaller than others. Posterior median eyes oval in shape. Anterior median eyes one diameter apart, their radius from laterals. Posterior eyes about their diameter apart. Female chelicerae with two teeth on anterior margin. Chelicerae of male enlarged, attenuated with a large boss on inside margin about middle, bearing two teeth. Male palpal femur with a thorn on venter. Total length of female 2.5 mm. Carapace 1.04 mm long, 0.98 mm wide. First femur, 1.42 mm; patella and tibia, 1.61 mm; metatarsus, 1.23 mm; tarsus, 0.60 mm. Second patella and tibia, 1.18 mm; third, 0.87 mm; fourth, 1.28 mm. Total length of male 2.3 mm. Carapace 1.10 mm long, 1.04 mm wide. First femur, 1.32 mm; patella and tibia, 1.72 mm; metatarsus, 1.17 mm; tarsus, 0.54 mm. Second patella and tibia, 1.12 mm; third, 0.86 mm; fourth, 1.12 mm.

Note. The palpus of the only male specimen available was in expanded condition, thus was not illustrated.

Diagnosis. The very simple epigynum, showing the lips of two openings (Fig. 87) separates *T. bergi* from other species. The longer legs and shorter fertilization ducts separate it from *T. exlinae* of Peru and Ecuador. The males of both species have a thorn on the femur, and enlarged chelicerae.

Records. Paraguay. One ♀ (Germain, MNHN). *Argentina.* Buenos Aires: 1 ♂, 3 ♀ paratypes (C. Berg, MNHN).

THERIDION ISORIUM sp. n.
Figures 241-243

Holotype. Female from Divisoria, Dept. Huánuco, 1700 m elev., Peru, 23 Sept.-3 Oct. 1946 (F. Woytkowski), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace, sternum, legs dark gray-brown; coxae and proximal ends of femora yellow-white. Abdomen black with some white stripes on dorsum (Fig. 241); venter with no light marks. Anterior median eyes slightly larger than others, three-quarters their diameter apart, almost touching laterals. Posterior median eyes one diameter apart, three-quarters diameter from laterals. Total length 1.5 mm. Carapace 0.71 mm long, 0.55 mm wide. First femur, 0.88 mm; patella and tibia, 0.83 mm; metatarsus, 0.57 mm; tarsus, 0.42 mm. Second patella and tibia, 0.65 mm; third, 0.50 mm; fourth, 0.75 mm.

Diagnosis. The epigynum, which is an indistinct white area in a heavily pigmented region, has no lip (Fig. 243). The loops of the ducts and the color of the abdomen (Fig. 241) will separate this species from other species of *Theridion,* including *T. exlinae.*

Record. Peru. Huánuco: 100 km E of Tingo María, 5 Oct. 1954, ♀.

THERIDION PLAUMANNI sp. n.

Figures 244-248; Map 3

Holotype. Male from Nova Teutonia, lat 27°11′S, long 52°23′W, Santa Catarina, Brazil (F. Plaumann), in the Senckenberg Museum (no. RII/13468/1). The species is named after the collector.

Description. Except for pigment present in eyes, this species is without pigment in alcohol and is very lightly sclerotized. The sclerotized areas are yellowish, the soft ones lighter. Eyes subequal in size. Anterior median eyes one and one-quarter diameters apart, one-third diameter from laterals. Posterior median eyes one and one-half diameters apart, one diameter from laterals. Chelicerae of male with a hump, almost in middle and one large anterior tooth, fangs very heavy and large, two-thirds length of outside chelicerae. Total length of female from Venezuela 2.3 mm. Carapace 0.8 mm long, 0.7 mm wide. First femur, 2.4 mm; patella and tibia, 2.3 mm; metatarsus, 1.8 mm; tarsus, 0.7 mm. Third patella and tibia, 0.9 mm; fourth, 1.2 mm. Total length of male 2.2 mm. Carapace 0.7 mm long, 0.7 mm wide. First femur, 3.2 mm; patella and tibia, 3.1 mm; metatarsus, 2.5 mm; tarsus, 0.6 mm. Second patella and tibia, 1.7 mm; third, 0.9 mm; fourth, 1.3 mm.

Diagnosis. The structure of the palpus (Fig. 244) separates this species from *T. exlinae.* The epigynum has an indistinct oval depression with the connecting duct showing anteriorly and slightly to the sides (Figs. 246, 248). The larger connecting duct loops probably separate this species from *T. excavatum* O. P.-Cambridge.

Records. Venezuela. Aragua: Tovar, 1888, ♀ ♂ (E. Simon, MNHN). *Dist. Fed.:* Caracas, 1887-1888, ♀ (E. Simon, MNHN). *Brazil. Minas Gerais:* Caraça, ♀ ♂ (E. Gounelle, MNHN). *São Paulo:* Botanical Gardens, São Paulo, Jan. 1959, ♀ ♂ (A. M. Nadler, AMNH).

Theridion zonarium Keyserling

Figures 249-251

Theridium zonarium Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 79, pl. 4, fig. 48, ♀. Female holotype from Guadaloupa [Guadalupe, Libertad], Peru, in the Polish Academy of Sciences, Warsaw, examined.

Abdomen with a median dorsal triangular white band pointing posteriorly; from the band branch 3-4 narrow white lines to the sides, separating off a series of 4-5 dark brown spots on each side. Venter with a white line across, anterior to pedicel, and a pair of brown spots anterior to spinnerets. Chelicerae with two teeth on anterior margin. The epigynum is small (Fig. 251). Carapace 2.1 mm long, first patella and tibia, 3.7 mm.

Figures 249-251 were prepared from the holotype.

Record. Peru. Lambayeque: 34 km E of Olmos, 20 Jan. 1955, ♀ (E. I. Schlinger, E. S. Ross, CAS).

Theridion baltasarense sp. n.

Figures 252-253

Holotype. Female from Baltasar, Windward Island, Lesser Antilles, 250 ft. [75 m elev.], second growth by a stream, in the British Museum. The species is named after the type locality.

Description. Carapace yellow, dusky towards the sides. Legs yellowish with narrow dusky bands. Abdomen dorsum has a median white band having jagged margins, on a black background; sides with white irregular patches on black; venter with a central white spot in center on a black background. Eyes subequal in size. Anterior median eyes somewhat less than one diameter apart, almost touching laterals. Posterior median eyes less than one diameter apart. Total length 2.00 mm. Carapace 0.98 mm long, 0.86 mm wide. First femur, 1.23 mm; patella and tibia, 1.32 mm; metatarsus, 0.92 mm; tarsus, 0.55 mm. Second patella and tibia, 0.98 mm; third, 0.71 mm; fourth, 1.12 mm.

Diagnosis. The shallow depression (Fig. 253) of the epigynum separates this species from *T. paidiscum;* the internal genitalia are similar.

Record. Lesser Antilles: Baltasar, 1 ♀ paratype.

Theridion pigrum Keyserling

Figures 254-255

Theridium pigrum Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 232, pl. 20, fig. 287, ♀. Female holotype from Blumenau, [Santa Catarina], Brazil, in the Naturhistorisches Museum, Vienna, examined.

Since several species described by Keyserling and belonging to the Vienna Museum were actually mislabelled European specimens, it is possible that this is a European species not known to me.

THERIDION AGRARIUM sp. n.

Figures 256-257

Holotype. Female from Agronomical Institute, Belém, Est. Pará, Brazil, 13 Feb. 1959 (A. M. Nadler), in the American Museum of Natural History. The specific name is an adjective from agriculture.

Description. Carapace yellow-brown, grayish on sides. Sternum olive. Legs yellow-white with black spots on venter. Abdomen gray to black with two dorsal jagged white lines, more or less parallel, fusing in front and behind as in *T. petrum* Levi; from white lines on each side two lines going down side. Borders of white lines darker than rest of dorsum. Venter with a central white spot between epigynum and spinnerets. Eyes subequal in size. Anterior median eyes two-thirds diameter apart, almost touching laterals. Posterior median eyes one-third diameter apart, their radius from laterals. Total length 1.3 mm. Carapace 0.59 mm long, 0.49 mm wide. First femur, 0.52 mm; patella and tibia, 0.52 mm; metatarsus, 0.32 mm; tarsus, 0.26 mm. Second patella and tibia, 0.41 mm; third, 0.36 mm.

Diagnosis. The epigynum has a dark, raised ridge at each end of which there is an opening of the thin connecting ducts. The ridge (Fig. 257) and shorter ducts separate this species from *T. chilapa* Levi, and *T. armouri* Levi.

THERIDION WEYRAUCHI sp. n.

Figures 260-262

Holotype. Female from Cutervo, 2800 m, Cajamarca, Peru, 22 June 1956 (W. Weyrauch), in the Museum of Comparative Zoology. The species is named after the collector.

Description. Carapace black, sternum dark brown, legs yellowish white with darker brown and black rings. Dorsum of abdomen black, gray and white (Fig. 262); two white spots side by side between genital groove and spinnerets on venter. Anterior median eyes slightly smaller than others, their diameter apart, their radius from laterals. Posterior eyes their diameter apart. Total length 2.4 mm. Carapace 1.04 mm long, 0.93 mm wide. First femur, 1.36 mm; patella and tibia, 1.48 mm; metatarsus, 1.00 mm; tarsus, 0.55 mm. Second patella and tibia, 1.04 mm; third, 0.78 mm; fourth, 1.10 mm.

Diagnosis. The epigynum (Fig. 261), which has a very small knob in a light area in turn surrounded by dark pigment, separates this species from all other *Theridion.* Not until the male is found will we know to which *Theridion* group this species belongs.

Records. Ecuador. Pichincha: Quito, Santo Domingo Rd., 2000 m, 25 April 1942, 3 ♀ (H. Frizzell, O. L. Haught). *Peru. Cajamarca:* Cutervo, 2800 m, 22 June 1956, ♀ paratype (W. Weyrauch).

THERIDION MICHENERI sp. n.

Figures 263-265

Holotype. Female from Madden Forest, Panama, 18 Jan. 1945 (C. D. Michener), in the American Museum of Natural History. The species is named after Dr. C. D. Michener, the collector.

Description. Carapace dark yellow with some gray on sides. Sternum, legs dark yellow. Abdomen almost black with nine white spots. Eyes subequal in size. Anterior median eyes one diameter apart, one-quarter diameter from laterals. Posterior median eyes one diameter apart, their radius from laterals. Total length 2.0 mm. Carapace 0.91 mm long, 0.79 mm wide. First femur, 1.03 mm; patella and tibia, 1.04 mm; metatarsus, 0.78 mm; tarsus, 0.47 mm. Second patella and tibia, 0.80 mm; third, 0.67 mm; fourth, 0.98 mm.

Diagnosis. The epigynum has a prong (Figs. 264, 265) like that of members of the genus *Tidarren. Theridion micheneri* can be distinguished by the different shape of the abdomen and the lack of a white stripe on the posterior portion of its dorsum. Only examination of the male genitalia will make placement in *Theridion* certain.

THERIDION COCHRUM sp. n.

Figures 266-269

Holotype. Female from Teresópolis, Est. Rio de Janeiro, 900-1000 m elev., Brazil, March 1946 (H. Sick), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace, sternum, legs yellow. Abdomen yellow-white with gray streaks on sides, center of dorsum whitish (Fig. 269). Anterior median eyes slightly larger than others, two-thirds their diameter apart, almost touching laterals. Posterior median eyes one and one-quarter diameter apart, one diameter from laterals. Chelicerae with one blunt tooth on anterior margin. Abdomen elongate (Fig. 269). Total length 3.00 mm. Carapace 1.33 mm long, 1.02 mm wide. First femur, 2.23 mm; patella and tibia, 1.98 mm; metatarsus, 1.74 mm; tarsus, 0.72 mm. Second patella and tibia, 1.44 mm; third, 1.16 mm; fourth, 1.96 mm.

Diagnosis. No other known species of *Theridion* has the abdomen so elongate, resembling that of the genus *Uloborus* (Uloboridae). The epigynum has a knob, and the openings are at the anterior base of the knob. Possibly this species does not belong to the genus; however, until the male is known it has to be placed here.

THERIDION TOPO sp. n.

Figures 270-272

Holotype. Female from Río Topo, Tungurahua, Ecuador, 17 June 1943 (H. E. and D. L. Frizzell), in the Museum of Comparative Zoology. The specific name is a noun in apposition after the type locality.

Description. Carapace brown with mottled darker areas. Sternum brown. Legs brown with darker rings. Abdomen with dorsum black and some lighter indistinct marks, two short white lines on each side, and one white line anterior; venter gray with light areas behind genital groove and on each side of epigastric plate. Eyes subequal in size. Anterior median eyes one diameter apart, two-thirds diameter from laterals. Posterior eyes one diameter apart. Total length 2.2 mm. Carapace 0.93 mm long, 0.81 mm wide. First femur, 1.17 mm; patella and tibia, 1.20 mm; metatarsus, 0.91 mm; tarsus, 0.53 mm. Second patella and tibia, 1.18 mm; third, 0.92 mm; fourth, 1.06 mm.

Diagnosis. The epigynum (Fig. 271) has a very small indistinct hook; the connecting ducts are very fine and transparent. The shape of the hook and the shape of the ducts separate this species from *T. cobanum* Levi and *T. bridgesi* Levi.

Records. Ecuador. Tungurahua: Río Topo, 17 June 1943, ♀ paratype (H. E., D. L. Frizzell).

THERIDION LAGO sp. n.

Figures 273-275

Holotype. Female from Lago Zurucha, 18 km west of Cuenca, Azuay, Ecuador, 16 Feb. 1955 (E. I. Schlinger, E. S. Ross), in the California Academy of Sciences. The specific name is an arbitrary combination of letters.

Description. Carapace, sternum, legs yellow-white. Abdomen black with a white pigment stripe on dorsum (Fig. 273). Eyes subequal in size, quite small. Anterior median eyes one diameter apart, one-quarter diameter from laterals. Posterior eyes their diameter apart. Chelicerae with two teeth on anterior margin. Total length 2.7 mm. Carapace 1.06 mm long, 1.04 mm wide. First femur, 1.38 mm; patella and tibia, 1.27 mm; metatarsus, 1.07 mm; tarsus, 0.62 mm. Second patella and tibia, 1.01 mm; third, 0.65 mm; fourth, 1.10 mm.

Diagnosis. The distinct stripe on the abdomen (Fig. 273) and the epigynum, which has a light depression with opening on small protuberances on each side posteriorly (Fig. 275), are diagnostic. The epigynal area is pigmented. No other *Theridion* species is close to it.

THERIDION RUFIPES Lucas

Map 1

Theridion rufipes Lucas, 1846 [1849], Explor. scient. de l'Algérie, Zool., 2(1): 263, pl. 16, fig. 5, ♀. Female holotype from near Oran, Algiers. — Levi, 1957, Bull. Amer. Mus. Nat. Hist., 112: 56, figs. 188-193, ♀, ♂.

Distribution. Cosmotropical.

Additional records. United States. Florida: Hendry Co.; Monroe Co.; Palm Beach Co. *Honduras. Yoro:* Subirana (Stadelman). *Lesser Antilles. Trinidad:* St. Ann's (M. Nieves). *Venezuela. Aragua:* Maracay (P. C. Vogl, ZSM). *Colombia. Valle:* Buenaventura (D. L. Frizzell). *Ecuador. Guayas:* Salinas; Guayaquil (H. E., D. L. Frizzell). *Peru. Piura:* El Alto (Ewing). *Loreto:* Pucallpa (E. I. Schlinger, E. S. Ross, CAS); Yurac, 110 km E of Tingo María (E. I. Schlinger, E. S. Ross, CAS). *Huánuco:* Santa Teresa, Río Huallaga, 600 m elev. (F. Woytkowski); Cucharas, Valle Huallaga (F. Woytkowski). *Lima:* Lima, in cotton field (W. Weyrauch, AMNH). *Brazil. Pará:* Belém (A. M. Nadler, AMNH). *Pernambuco:* Recife (SMF). *Minas Gerais:* Belo Horizonte (Cornell Univ. Exped.); Minha Serinha, Diamantina (E. Cohn, AMNH). *Est. Rio de*

Janeiro: Mendes (SMF). *Paraná:* Curitiba (N. L. H. Krauss, AMNH). *Santa Catarina:* Nova Teutonia, lat 27°11′S, long 52°23′W (F. Plaumann, SMF). *Paraguay.* (Bohls, BMNH).

REFERENCES CITED

Bonnet, P.

1961. Bibliographia Araneorum, Toulouse, 3: 1-587.

Bryant, E. B.

1944. Three species of *Coleosoma* from Florida, Psyche, 51: 51-58.

Levi, H. W.

1957. The spider genera *Enoplognatha, Theridion* and *Paidisca* in America north of Mexico. Bull. Amer. Mus. Nat. Hist., 112(1): 1-123.

1959. The spider genera *Achaearanea, Theridion* and *Sphyrotinus* from Mexico, Central America and the West Indies. Bull. Mus. Comp. Zool., 121(3): 55-163.

1960. Problems of the spider genus *Steatoda* (Theridiidae). Syst. Zool., 8: 107-116.

1961. Evolutionary trends in the development of palpal sclerites in the spider family Theridiidae. Jour. Morphol., 108: 1-10.

[In press]. Nineteenth century South American araneology. Papeís Avulsos, São Paulo.

Levi, H. W. and L. R. Levi

1962. The genera of the spider family Theridiidae. Bull. Mus. Comp. Zool., 127(1): 1-72.

Nicolet, H.

1849. Arácnidos *in* Gay, Historia fisico y politica de Chile, 3: 319-543.

Petrunkevitch, A.

1911. A synonymic index-catalogue of spiders. Bull. Amer. Mus. Nat. Hist., 29: 1-809.

Rower, C. F.

1942. Katalog der Araneae, Bremen, 1: 1-1040.

Simon, E.

1894. Histoire naturelle des Araignées, Paris, 1: 488-592.